



TAPI: Impact on Security and Development of the Region



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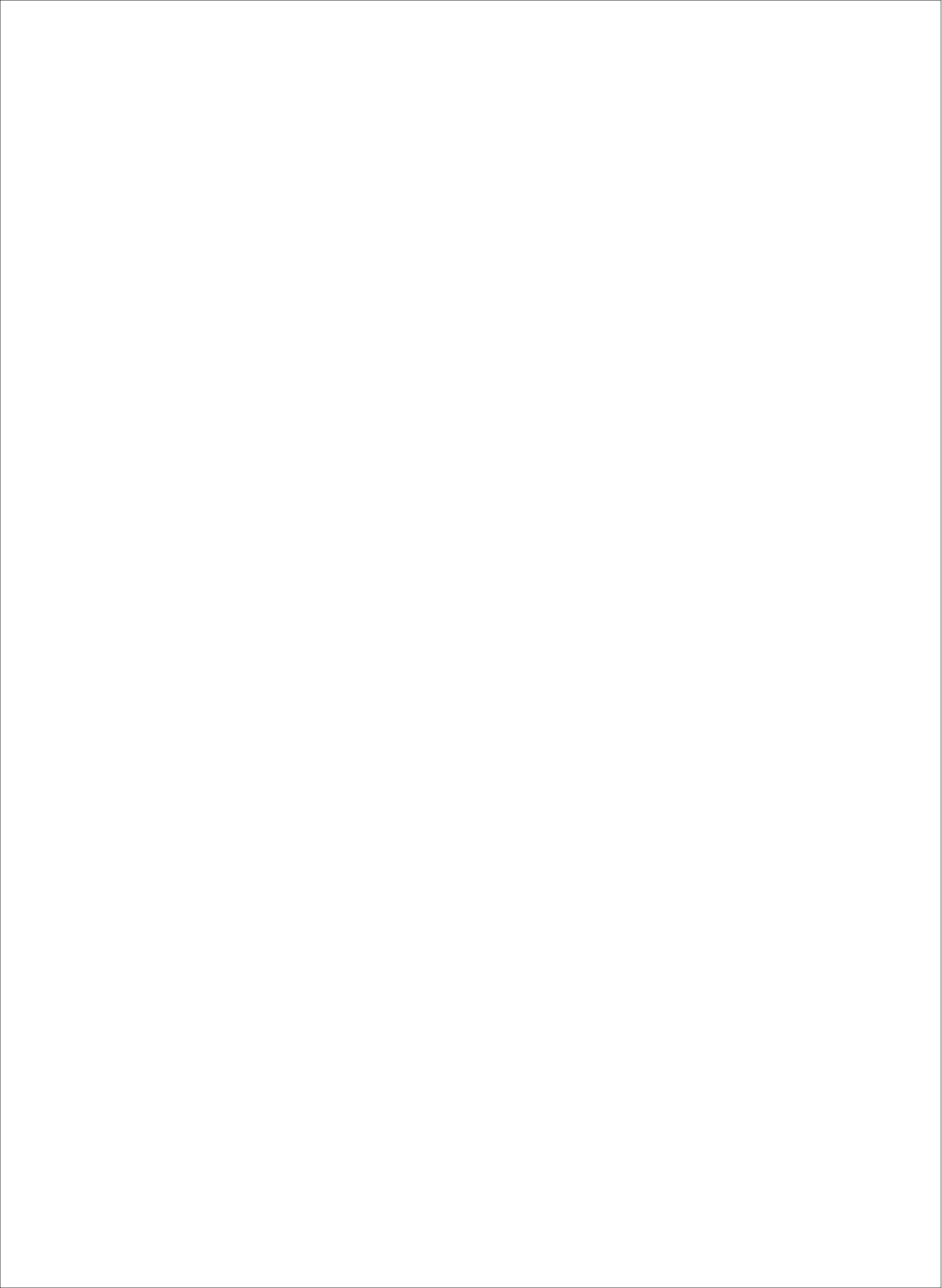
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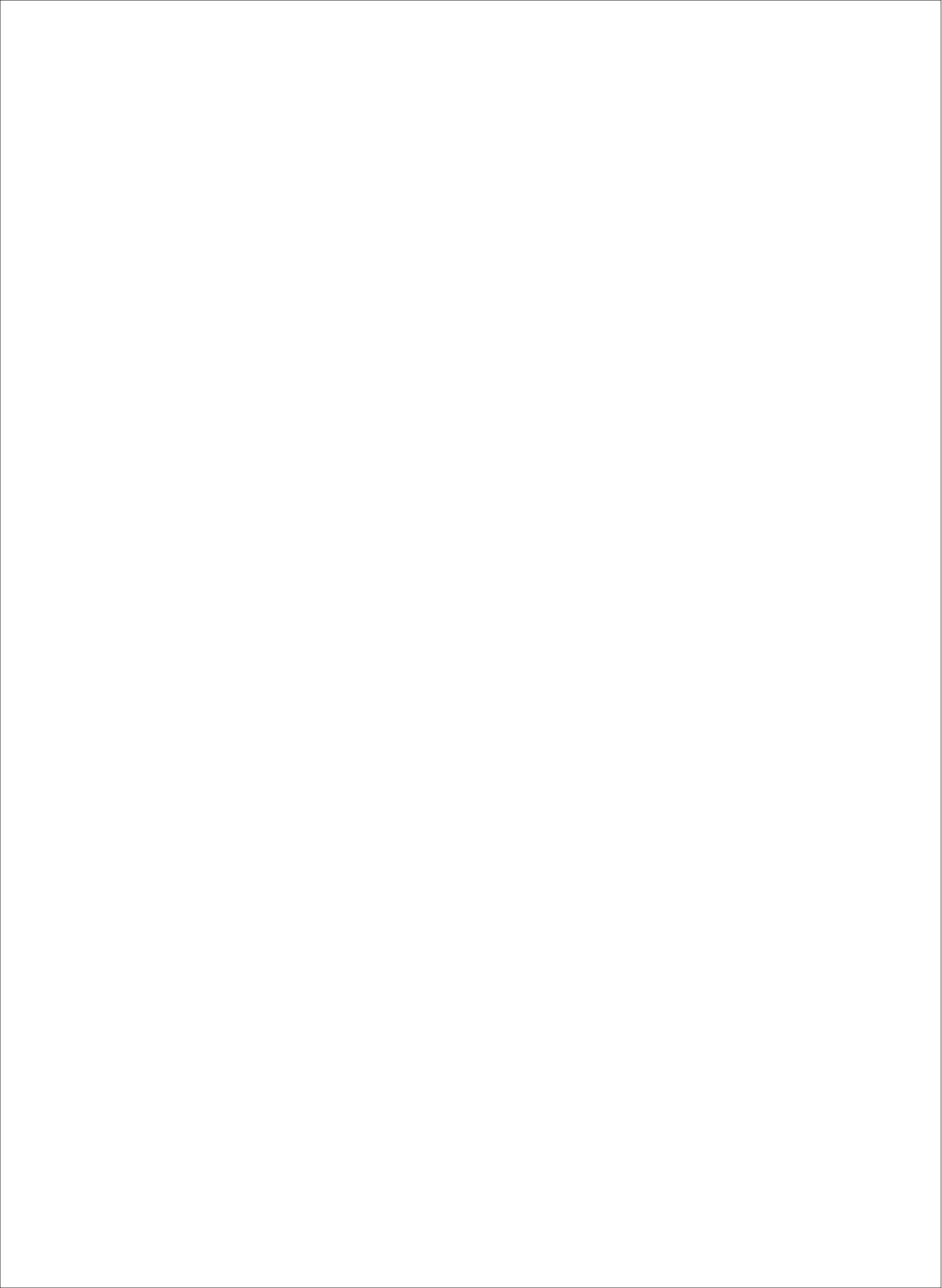
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Acronyms

ADB	Asian Development Bank
ANA	Afghan National Army
ANP	Afghan National Police
ANSF	Afghan National Security Forces
ANDS	Afghanistan National Development Strategy
ASEAN	Association of Southeast Asian Nations
BCF	Billion Cubic Feet
CASA 1000	Central Asia South Asia electricity transmission project
GSPA	General Sale Purchase Agreement
GDP	Gross Domestic Product
GPI	Gender Parity Index
HDIP	Hydro Carbon Development Institute of Pakistan
NSP	National Solidarity Program
NATO	North Atlantic Treaty Organization
SAARC	South Asia Association for Regional Cooperation
TAPI	Turkmenistan, Afghanistan, Pakistan, India gas pipeline
TAGP	Trans-ASEAN gas pipeline
TWh	Terawatt-hour
UN	United Nations

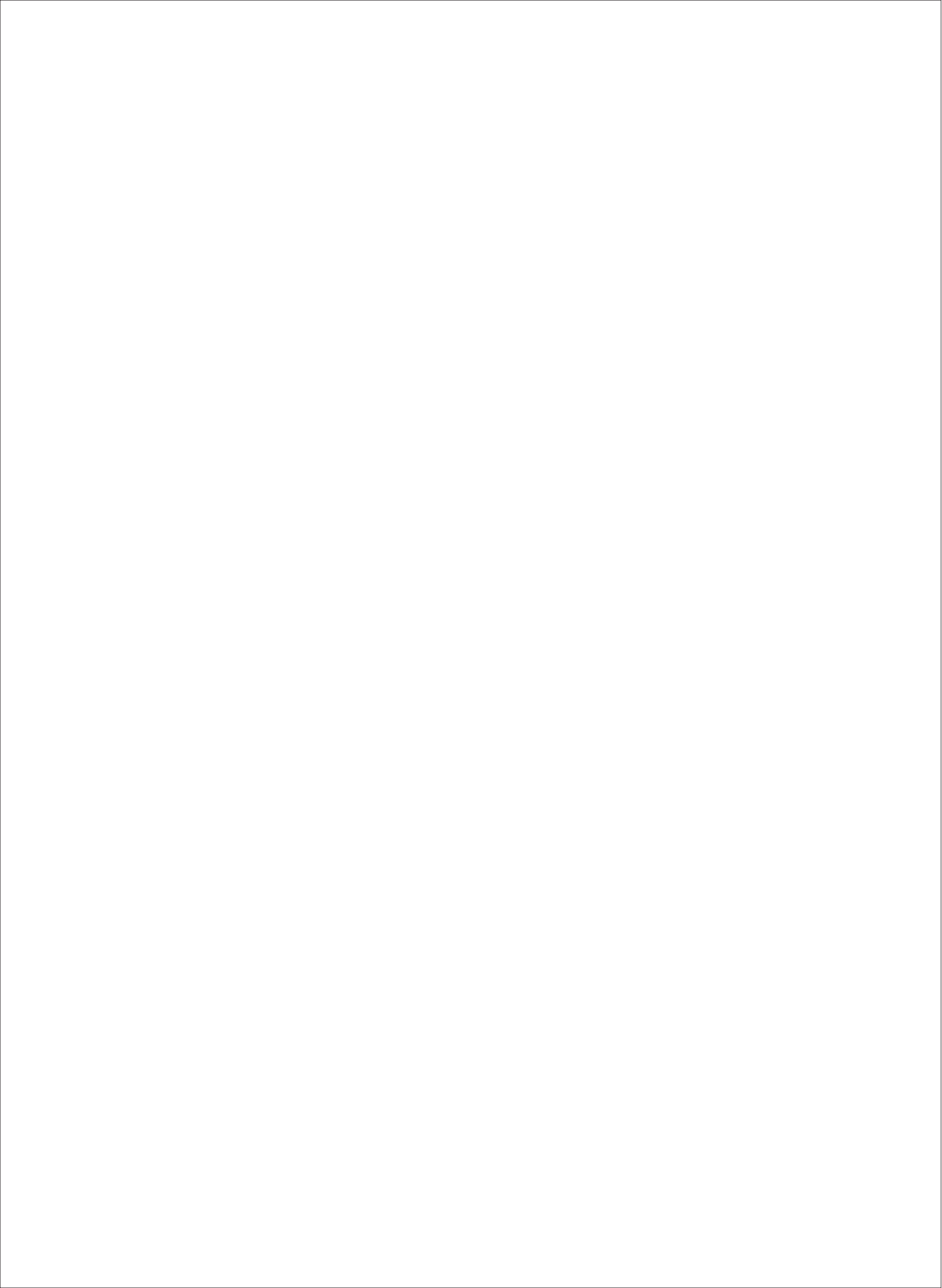


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Executive summary

The study focuses on the impact on security and development by the Turkmenistan, Afghanistan, Pakistan and India gas pipeline (TAPI), which is one of the most ambitious and long debated infrastructure projects in Afghanistan and has been influenced by global energy giants, geopolitics and regional players. The project has faced so much contest and competition from regional actors and this may continue during the construction and operation of the project. The incentive for the implementation of the TAPI gas pipeline has gained momentum as a result of the growing energy needs among regional countries. Afghanistan, Pakistan and India all need a steady and sustainable supply of energy for their economic growth and development. These countries all depend on external supplies of energy.

The current route of the TAPI gas pipeline takes it through one of the most volatile regions in the world. However, there are challenges from multiple actors at several layers starting with global energy giants, regional players and the immediate region. There are also internal challenges in each of the participating countries. However, the pipeline potentially brings with it the opportunity to promote integration in the region and foster harmony among the participating countries.

The study provides brief profiles of each of the provinces that may be affected by the project in Afghanistan, as well as the Baluchistan and Punjab provinces of Pakistan. Development in the majority of the provinces in this case is abysmal, with conflict identified in the past as the sole factor for stymieing that development. Instability in some of these provinces has had historical narratives. The economic potential of each province is highlighted to provide information for policy-makers to make longer-term plans for economic integration of those parts through better infrastructure and investment. The security situation of each province is outlined and highlights the potential threats from internal sources to TAPI.

Punjab's existing industrial capacities are referred to since they may have a major influence on the gas distribution policy of the Pakistani state.

The implementation of the TAPI gas pipeline will bring numerous opportunities. The pipeline has potential economic, developmental and security benefits. It may bring opportunities for employment, construction, electricity, industrialization and infrastructure. The project could enhance integration in the region in many ways, thus liberating a lot of precious resources for its development and turning South Asia into a major trade hub. There is an urgent need for bilateral discussion between India and Pakistan to pave the way for the implementation of the project.

Though the chicken and egg debate over the development-security nexus is never-ending and may be used for the sake of argument, in the light of the current violent conflict situation in Afghanistan, security of the TAPI pipeline is one of the most es-

essential requirements to enable its construction and maintenance. Security would further help facilitate development plans and projects for the citizens. This may bring positive changes to the security situation in urban centers as well. Bilateral or multi-lateral engagements, which are needed for the project, may encourage a more flexible approach and less belligerent attitude between the participating countries and thus lead to more space for interaction and cooperation. It may facilitate relationships based on mutuality and reciprocity among India, Pakistan and Afghanistan, countries that have long been locked in uneasy relationships.

However development infrastructure intended for large scale use may also have certain negative impacts as well. TAPI may require land, which may force the relocation/displacement of people. TAPI may also fragment some communities and make access to land and water difficult for the local people. There may also be some negative environmental impact such as deforestation, the threat to bio-diversity, the diversion of water flow and the displacement of endangered species of birds and animals.

At the same time, there is the danger of physical threats to the pipeline from parties who may target it at the behest of external actors or actors who are driven by their ideology.

The forces favoring the project are stronger than those actors opposing. The India-Pakistan conflict over water and territory has long had a major impact on the geopolitics of the region and it has stymied the development of certain strategic regions.¹ Pakistan's concerns about Kabul and its quest to seek a docile government there are also factors that may pose an obstacle to the implementation of TAPI. However, Pakistan urgently needs energy and therefore the incentive to cooperate with other countries such as India and Afghanistan to construct the TAPI pipeline is stronger. There is a pressing need for cooperation among the participating countries to jointly work for its security and finances. TAPI brings to India, Pakistan and Afghanistan what is increasingly becoming a strategic need. Raising the estimated US\$10 billion funds to finance the TAPI pipeline is made more difficult by the high risks involved in implementing it in this region and the consideration given by bankers to security and the recoverability of debt when making their decisions.

¹ <http://www.insightonconflict.org/2012/01/india-pakistan-saarc/>

Methodology

The discussion over TAPI still continues and given the absence of an implementation plan, its actual implementation and other impact assessment studies, it is necessary to review similar cases elsewhere in order to gain insight into the impact by the pipeline on the provinces in Afghanistan which may host it.

The author's aim in this research is to review literature on similar projects elsewhere, as well as reviewing information about the provinces of Herat, Farah, Helmand, Kandahar, Baluchistan and Punjab in Afghanistan and Pakistan.

The author did a desk review of many available reports on the TAPI pipeline and the geography of the region through which it would run. The study includes a lot of data and information from these reports. The desk study was followed by interviews with a selected group of people. The interviews were all unstructured and the questions focused on security and development. Non-probability sampling methods such as quota and snowball sampling were used to conduct the 15 interviews with senior development practitioners and regional security experts for Afghanistan, Pakistan and India to seek their views on TAPI and how it could integrate countries of the region over a two month period. Interviews were conducted with key informants in the gas sector as well.

Limitation

Attempts were made to reach to the Asian Development Bank, which is the lead supporter of the project but its officials declined a request for a meeting. Afghan security experts and state institution officials, including from the foreign ministry, did not respond to queries. Their views would have added information on the plans for the project and its challenges.

The triangulation of data from the interviews and other methods was implemented in order to achieve stable and more accurate conclusions from the primary and secondary data gathered during the study. Alternative perspectives as well as existing engagement and bilateral relations were also reviewed to underpin the analysis and recommendations.

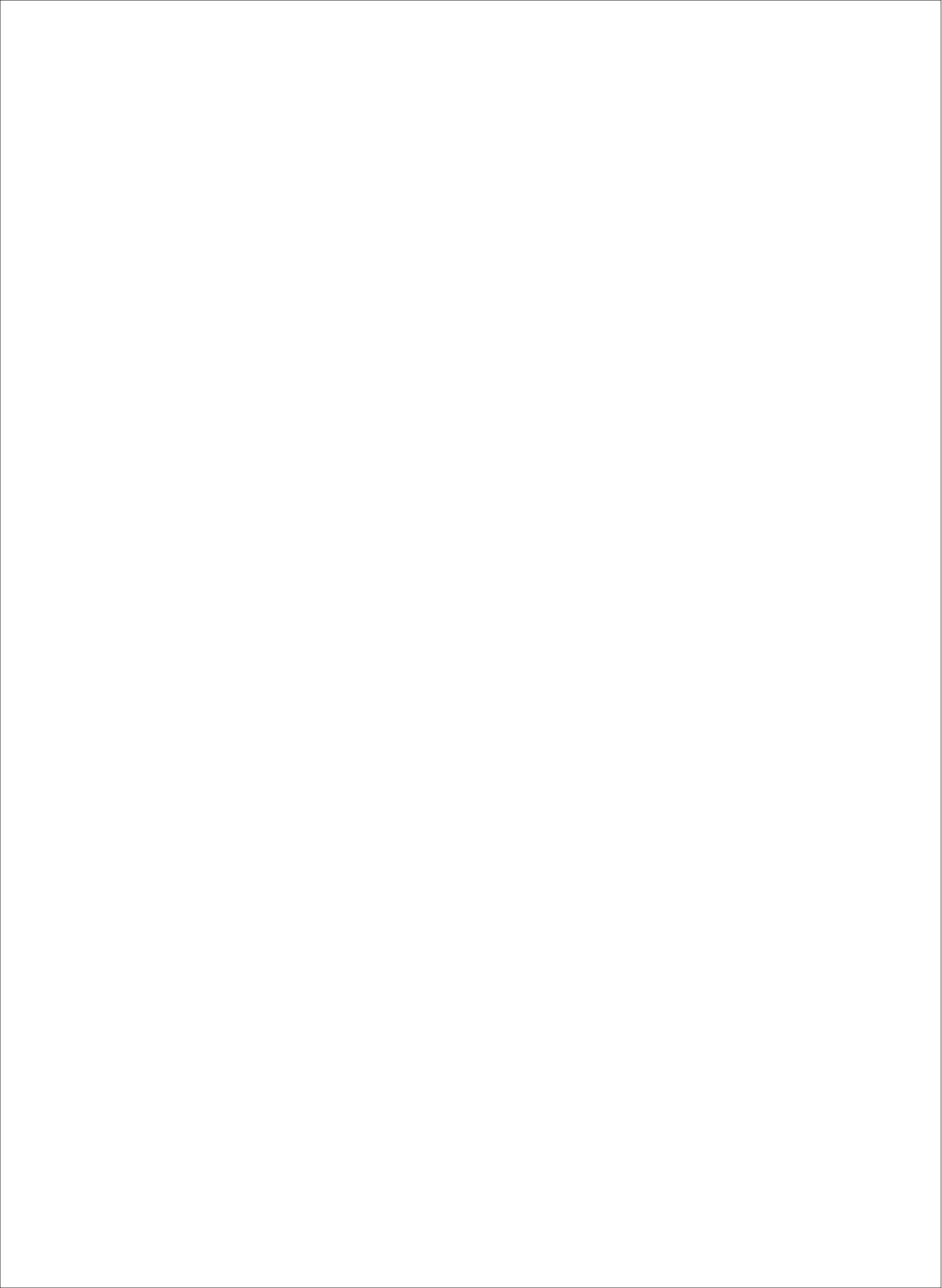
Recommendations

To the governments of Afghanistan, Pakistan and India:

1. In order for energy security to become a central part of the national security discourse and for the TAPI pipeline to become a trans-national energy project, the regional countries must engage in regional security dialogue and secure their national interests as well as collective interests through it. One way is to jointly design plans to secure the project and then cooperate on training and deploying a police force.
2. For the implementation of the TAPI pipeline to be a success, India and Pakistan must first seek deeper engagement at a senior level and iron out any differences. To achieve solutions through integration may require a serious demonstration of statesmanship, but given the necessity of the TAPI pipeline, this project offers an apt opportunity for this. Trade and cultural exchanges have been helpful in other contexts for building confidence and creating an environment of trust among hostile parties.
3. There has to be immediate creation of a joint steering committee made up of senior representatives of governments from the participating countries to address existing and emerging concerns with regard to implementation of the project in a timely manner. For example, all hurdles to the project must be assessed and this committee must address them quickly.
4. The participating countries must work together to jointly design a security mechanism that will monitor the security of the pipeline. The security force created must be sensitive to human rights concerns and the voluntary principles on security. The project needs to be protected by a force trained for this kind of job.
5. Each participating country should also initiate a detailed assessment of the threats and opportunities in each province hosting the pipeline and encourage private investment. For example, provinces in Afghanistan have natural resources and the potential for agriculture and farming. Investment must be facilitated in those provinces. Baluchistan has the potential of being a major transit corridor and this could be leverage both for regional and national development and integration. It may lead to the creation of road networks, the provision of connectivity and access to people and products.
6. The participating countries must involve the civilian population during the implementation and operational stages of the project in order for social interests to be presented and protected, thus avoiding a negative social and environmental impact. For example, they should seek the views of civil society on the so-

cial and environmental impact of the project and look at how they can mitigate its negative impact. Also important is consultation with members of the civil society and the compensation of affected people. Civil society may also collaborate with the government in building capacities of the local people to benefit from the opportunities brought by the pipeline.

7. There must be dialogue and an exchange of information and proposals among the participating countries at CSO level. Their recommendations must be given serious consideration and offered a response.
8. Local CSOs in each participating country must engage with communities in order to promote their awareness and inform them about the project, its potential impacts, the opportunities it offers the local population, as well as providing a platform for dialogue for proposals and reappraisal.
9. Environment and social impact assessment must be carried out in line with internationally accepted standards. This should provide the basis for genuine consultation with the communities living close to or affected by pipeline so that they get a sense of security and can see a better future coming with the success of the project.
10. In light of the feasibility study, the environment and social impact assessment and factors of local security, the participating countries must in coordination with supporting international donors come up with inclusive development projects that combine benefits for the local people with the success of the project. This will help increase security for the project.
11. The final map for the TAPI gas pipeline must be shared with the public not only to publicize its route, but also to facilitate the gauging of the impact area and to come up with internationally acceptable compensation plans for the impacted communities.



Introduction

The Turkmenistan-Afghanistan-Pakistan-India gas pipeline is a project that will be constructed to deliver gas to Afghanistan, Pakistan and India under the existing agreement. The study's focus is on Afghanistan and Pakistan and aims to assess its impact on security and development in these two countries. The study will touch upon bilateral issues between India and Pakistan and briefly discuss their negative impact on the project. The impact on India will be mentioned repeatedly in the study, but not in as much detail as the impact on security and development in the provinces bordering the pipeline.

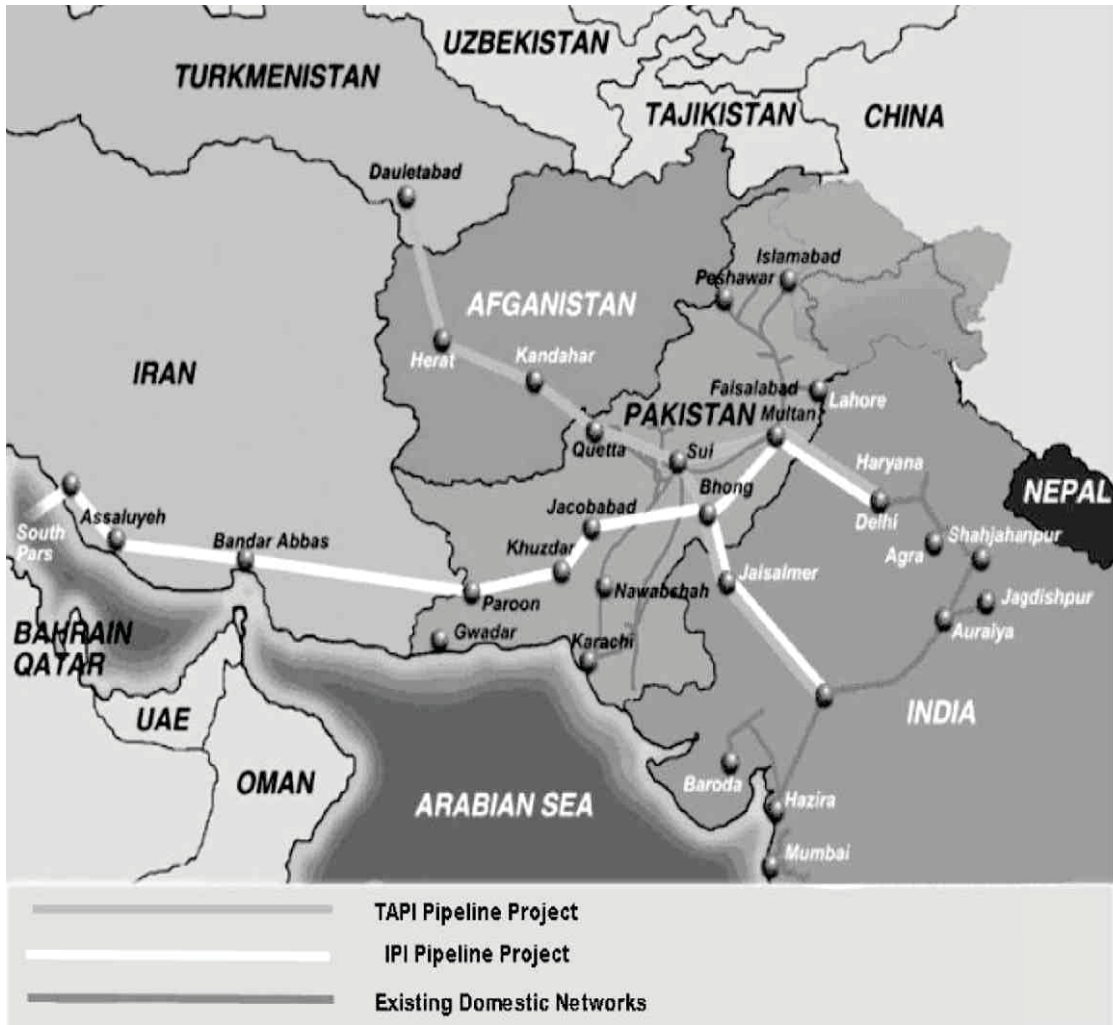
Energy has come to take a center stage in international politics and the economy in the 20th and 21st centuries. Developing economies especially rely largely on oil and gas to stimulate their growth and development. Oil and gas continue to fuel economies and dreams of faster progress, and both remain resources of strategic importance at a global level.

The Turkmenistan, Afghanistan, Pakistan and India gas pipeline (TAPI) is the focus of this study. The TAPI gas pipeline based on available plans² enters Afghanistan at Herat and runs through Farah, Helmand and Kandahar before making its way towards Baluchistan and the Multan part of Punjab before connecting to Fazilika in India. Of the TAPI pipeline's total 1,680 kilometer length, 144 km will be in Turkmenistan, 735 km in Afghanistan, and 800 km in Pakistan, bringing it to the Indian border. Of the 90 MMcmd of gas pumped through it, India and Pakistan will get 38 MMcmd each and Afghanistan 14 MMcmd.³

² mapelveiculos.com.br/adm/tapi-pipeline-map dated August 21st 2014

³Maini and Veid, Observer Foundation of India, 2013, Roadblocks remain to TAPI pipeline construction, April 4th 2013

Figure (1):



Source: <http://mapelveiculos.com.br/adm/tapi-pipeline-map> dated August 21st 2014

The pipeline is borne of the necessity for energy in the growing economies of the regional countries. This simultaneously offers an opportunity for the symbiotic integration of the countries of the region. The need for energy and the quest for economic development largely shape and reshape the regional political situation/equation and international relations, as well as shaping policies for the allocation of resources within this strategic matrix. TAPI is a crucial step in ongoing confidence building between India and Pakistan, with Pakistan guaranteeing the pipeline's security through its territory. Pakistan has already granted most-favored-nation trade status to India and the two have opened their Wagah border to road traffic.⁴

⁴ Op-cit Maini and Veid, Observer Foundation of India, 2013

The implementation of the TAPI pipeline could be the first step in the revival of the Silk Road. It is a step that is likely to boost peace and give new shape to regional energy cooperation. India, Pakistan, Afghanistan and Turkmenistan have all inked the historic gas sale purchase agreement (GSPA) for the \$7.6-billion Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline, which is often touted as the peace pipeline.⁵

On its journey through Afghanistan and its entire route the TAPI pipeline passes through some of the most volatile districts. TAPI is a major international intervention backed by international organizations with major financial powers, and it's very likely that the pipeline will have major long-term consequences on the situation and stability in the region.

The project could be an opportunity to bring peace to a region that has long been vulnerable to conflict and contest, especially when the participating countries face an economic downturn due to the shortage of energy without a cost effective alternative. The study requires an understanding of the provinces that will host the pipeline in both countries, and of the potential for conflict as well as opportunities that may accompany the project. The study also shows how development may bring security to part of the region that finds itself in prolonged inter-state and intra-state conflict, with geopolitical aspirations often playing a central role in contest and conflict. The study will be based on mixed methods of collecting information from secondary sources as well as from key informants as it presents the security situation and opportunities for the development of volatile regions in Afghanistan and Pakistan.

⁵ Hindu,2012, TAPI gas pipeline sale agreement signed (Accessed on August 12th 014<http://www.thehindu.com/business/Economy/tapi-pipeline-gas-sale-agreement-signed/article3449588.ece>)

TAPI

TAPI is short for the Turkmenistan- Afghanistan-Pakistan-India Gas Pipeline, which is agreed to carry gas from Turkmenistan's Galkynysh field to Afghanistan, Pakistan and India.

Figure (2)



Source: Canadian Center for Policy Alternative

The TAPI gas pipeline was and is an attempt to provide gas for the 1.5 billion people market in South Asia, to diversify the market for Turkmen gas as well as to build independent pipelines for export. The participating countries have taken several steps to remove hurdles to its implementation.

“The gas pipeline will provide 500 million cubic feet per day (mmcf/d) gas to Afghanistan and 1.325 billion cubic feet per day (bcfd) gas each to Pakistan and India. Afghanistan was earlier interested in being a recipient of transit fees only, but signed the GSPA with Turkmenistan in July 2012 for 500 Mmcf/d gas. TAPI parties agreed to form a Special Purpose Vehicle (SPV) as TAPI Ltd with four designated gas companies from the TAPI countries and proceed with this vehicle to undertake certain pre-project activities, including the selection of the consortium leader.”⁶ The countries participating in the project have agreed on the distribution of the gas.

⁶ Azad Rasheed, Abdul, “TAPI project to be completed by 2018-end”, Business Recorder, November 22, 2014 (Accessed December 31st 2014)

Energy and its importance for Afghanistan and Pakistan

TAPI is important for a number of reasons. The need for gas energy is one and geopolitical calculation for the current route of the project which may integrate the region is other. Access to a sustainable supply of energy is important for people to use opportunities for their development and economic growth. Afghanistan, Pakistan and India all need a sustainable energy supply for their economic growth, however all of them face a serious energy deficit. It has also been repeatedly echoed that cost-effective access to energy leads to human development. "Energy has been identified as an important commodity for development in the Afghanistan National Development Strategy (ANDS) and it highlights that only 6 % of people have access to energy".⁷ The ANDS also prioritizes development of the energy sector as it is considered critical for economic needs and attracting investment in the sector. Pakistan faces serious energy constraints. A report by Pakistan's central bank said the country's gas deficit could hit 3 bcf/d by 2015-16 if new sources of supply are not found. Its current energy supply deficit is 1.2-1.4 bcf/d. Pakistani president Asif Ali Zardari described the TAPI pipeline as extremely important in helping the country's economy to further integrate with others both inside and outside the region.⁸

Afghanistan's energy needs

Though the energy availability in the country has significantly increased in the past decade, especially in urban areas, in terms of electricity consumption per capita, the country still ranks among the bottom ten percent globally. Afghanistan does not have a strong industrial base and the little industrialization that happened in 1960s and early 1970s was destroyed during the ensuing years of war. Afghanistan has a trade-based economy. While it is a huge importer, it only exports primary goods such as carpets, fruits and vegetables, some handicrafts and precious stones, all of which do not off-set the flight of capital to finance its imports. Afghanistan's land-locked geography makes its trade success dependent on the moods of its neighbors with whom it has not enjoyed a very peaceful past. Afghanistan needs an industry built on domestically available raw materials and since the import of energy increases the cost of industry, it detracts from any competitive edge that Afghan products could offer.

Gas could be one important source of energy. Both internal sources of gas could be studied as well as the gas purchased from the TAPI project to create opportunities for a level of industrialization in areas with the potential for economic activity and a multiplier effect that may trickle down to the lower strata of the economic classes. Afghanistan has no gas distribution plan right now and this may not reflect well on an administration especially when it contributes towards the cost of the pipeline.

⁷ Goal 7 of the Afghanistan National Development Strategy

⁸ INP, "TAPI Gas Pipeline Project is Most Important for Pakistan: Zardari, The Nation, June 11, 2012.

Afghanistan has some proven gas deposits and there may be new discoveries across the country. During the 1980s Afghan gas experts pointed out that Afghanistan's northern geology bears similar constructs to the gas rich fields of Turkmenistan.⁹ In addition, Afghanistan is expected to receive transit fees of around US\$ 400 million annually, probably the biggest sum from a single project, and that money could be used for the development of gas distribution networks for domestic consumption.¹⁰ The country may begin to develop internal networks to distribute gas for both household consumption as well as industrial use. The former Director General of the Petroleum Authority of Afghanistan opined that Afghanistan's 16% share of the total gas from the TAPI pipeline may not be much, but Afghanistan could use its own gas networks to supply potential industrial areas.¹¹

Pakistan's energy needs

Like in any other developing country energy is critical for the economic growth and development of Pakistan. The Asian Development Bank's Outlook 2012 describes Pakistan's energy crisis as one of the primary structural problems affecting its economy.¹²

Energy experts in Pakistan say that Pakistan is inching towards an energy crisis and a leading writer states that, "Energy is a vital element for sustained economic growth and development, therefore energy consumption is used as a basic indicator of people living standards. Due to technological and industrial development, the demand of energy in Pakistan is increasing more than the total primary energy supply; therefore, it is confronting severe energy deficit today".¹³

The World Bank underlines the energy situation saying, "Key challenges include large and growing energy shortages, high energy costs and inefficiencies that prevent the sector from financing all its costs. The sector therefore relies heavily on government support through subsidies and funding for almost its entire investment program. There is a growing mismatch between production and demand. Power generation has stagnated at about 94- 98 TWh since 2006, while installed capacity has only increased slowly due to lack of investment. The mismatch between demand and supply has reduced GDP growth by two percent per annum for the past several years".¹⁴ The shortages of energy have reflected negatively on GDP.

⁹ Noorani, Afghanistan: Pawn or potential queen? International Resource Journal, July 12th 2012

¹⁰ Daly, c John, Silk Road Reporter, Will the TAPI Pipeline Be Ever Built?, July 24th 2014 (accessed on December 6th 2014 <http://www.silkroadreporters.com/2014/07/24/will-tapi-pipeline-ever-built/>)

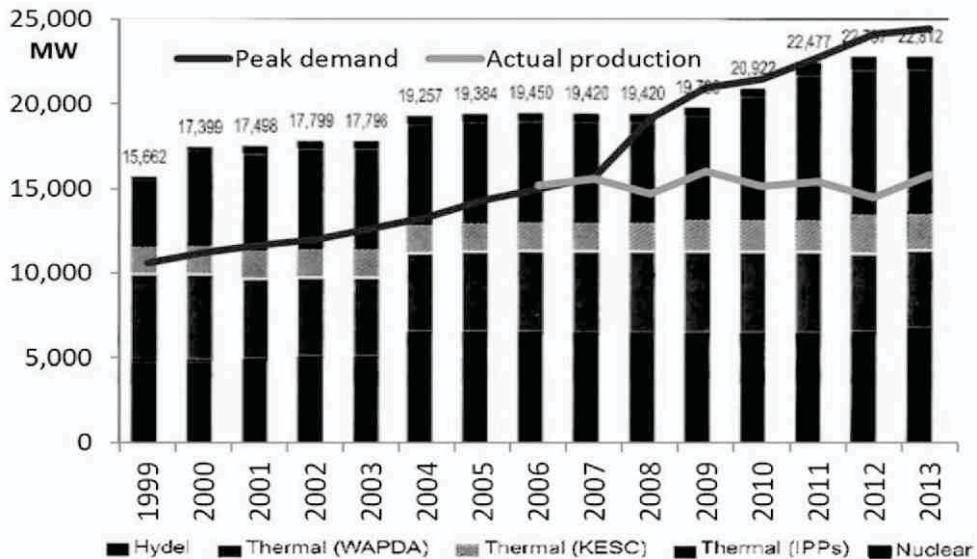
¹¹ Jalil Jumrani dated Jan 16th 2014

¹² Asian Development Bank, <http://www.adb.org/sites/default/files/ado2012-pak.pdf>, visited Aug. 17, 2012.

¹³ Anwar, Javed, 2010 "Analysis of Energy Security using Partial Equilibrium Model: A Case of Pakistan". International Islamic University, Islamabad

¹⁴ The World Bank 2014, Pakistan's country Snapshot

Figure 3: Demand has risen faster than capacity



Source: World Bank staff computations (based on Pakistan Energy Yearbook and NEPRA State

Pakistan has a growing population and its societal needs require brisk economic growth for its development. However, Pakistani energy sector experts paint a gloomy picture of the economy and place the blame for the poor economic growth of the country to a large extent on past energy policy and investment. According to Shakeel Ahmad Ramay, "The prevailing energy crisis in the country is the result of mismanagement and bad governance in the 1980s and 1990s. Pakistan was not able to invest in the energy sector in accordance with the increased demand of energy for sustaining economic growth and to cater to the increasing needs of the population".¹⁵

The current energy crisis in Pakistan, which has almost crippled industry nationwide, has now led to a reevaluation of investment in the energy sector. The government of Pakistan recognizes the impact of energy on economic growth and development of the country, and deems the gap between supply and demand as one of the first major challenges in national power policy.¹⁶

Pakistan is close to exhausting its gas reserves while it is short on funding for the development of renewable sources of energy. "Pakistan has limited ability to develop indigenous resources in the short run without compromising other critically important sectors". Pakistan is a developing country of approximately 181.3 million people and is facing an acute energy shortage. Pakistan, like many developing countries, relies to a large extent on traditional sources of energy due to a lack of new technology. Paki-

¹⁵ Ramay.A Shakeel, 2011, A Profile of Pakistan's Development Status and Green Economy in Pakistan, Sustainable Development Policy Institute, Working Paper Series #8 2011(accessed on September 15th 2014)

¹⁶ National Power Policy 2013 Government of Pakistan

stan generates 32% of its electricity from natural gas and has a 27.5 trillion cubic feet balance of recoverable gas reserves.¹⁷

Furthermore, limited natural gas supplies to domestic and industrial users has intensified the severity of the energy crisis. In 2010 domestic oil and gas production was 64,948 barrels/day and 4,063 mcft/day respectively. According to the Hydro Carbon Development Institute of Pakistan (HDIP), the balance reserves of oil and gas were 41.13 Mtoe (million tonnes of oil) and 498.70 Mtoe respectively by the end of June 2010. If the demand and supply remain unchanged, it's calculated that known oil and gas reserves will be exhausted in nearly 13 and 16 years respectively.¹⁸ The report further says that with Pakistan exhausting its gas reserves in the next 16 years the country will take yet another plunge into crisis in the absence of an alternative. The current gas production is around 4 bcf/d whereas demand is approximately 6 bcf/d. Gas production is expected to fall to less than 1 bcf/d by 2025 due to the depletion of gas reserves and demand will increase to 8 bcf/d. Almost one third of the domestic natural gas is used for electricity generation (32%) which causes a severe domestic and industrial gas load shedding. "Industrial development has come to a stand still and existing industrial units are shutting down due to lack of electricity. The general state of domestic commerce trade is worsening leading to increased unemployment and poverty. This has led to frustration, distrust and lack of trust among people in the democratic government".¹⁹ It does not stop there, but has serious consequences on other elements of the human security matrix such as food, employment and the economy to name a few. The 1.365 bcf/d of gas from the TAPI project could to some extent take care of Pakistan's daily gas needs, and could be used for electricity generation or for supplying industries and relieve a sector under strain. Gas as a source of energy may also complement experts' advocacy and recommendation for the promotion of a green economy.

¹⁷ Mahmood Anzar, 2012, Pakistan's overall Energy Potential Assessment

¹⁸ Ibid

¹⁹ Ibid

Geopolitical history of TAPI

The Trans-Afghanistan Gas pipeline that later became TAPI was conceived in 1995 but two decades later the project still remains a discussion on paper with several hurdles still in place. There are several reasons - both visible and some not so visible. It's important to discuss the actors and factors. US-registered Unocol and Bidas of Argentina were the earliest energy giants to compete during the 1990s in the construction of the project. However, the situation in Afghanistan made it difficult for the project to become a reality. Former Afghan president Hamid Karzai and Zalmay Khalilzad were both advisors to Unocol. Unocol entered the scene after Bidas made some progress with the Turkmen government and pushed the latter out of the race, underscoring the Saudi quest to expand its role in the energy market of Central Asia.

The second chance to realize the TAPI pipeline came into being after the end of the Taliban regime. However there were funding issues and some participating countries wanted a warrantee of uninterrupted gas, and this held back progress on the project. There have also been competing pipelines such as the Iran-Pakistan gas pipeline, and meanwhile the Turkmen law on possession of on-shore assets put off Exxon Mobile and Chevron, the two biggest energy companies. Financing the project has come to be a major issue and it shall remain so unless powerful companies asked by powerful countries come forward not only to fund the pipeline but also to ensure a supply of gas to all participating countries and avoid its becoming hostage to regional contest and competition. The French energy giant Total has shown lot of interest in the TAPI pipeline and is seemingly active behind the scenes.²⁰ However, there remain two major obstacles to potential investors – firstly, mobilizing money for the implementation of TAPI and secondly, Turkmenistan's laws on asset acquisition, which do not allow foreigners to buy assets in the country.²¹

The gas deposits in Central Asia have huge geo-strategic implications for the West because it has been importing gas from some of these deposits and the growing demand from new players could put a strain on the old players' domination of the commodity.

The region's geo-strategic importance is underpinned by its gas reserves and there is great competition for it. "The six players broadly involved in the game, include the United States, Russia, China, Iran, Turkey, India, and Pakistan. Of these, some of the bigger powers such as Russia and the US are more major players and constitute more to the game than countries such as India and Turkey"²². For a long time the Russians dominated the gas deposits of the Central Asian states.²³ Russia is a major

²⁰ <http://tribune.com.pk/story/768341/total-tempted-by-ambitious-tapi-asian-pipeline-project/>

²¹ Guillaume Lavallee, "Total tempted by ambitious TAPI Asian pipeline project" French Press, September 28th 2014

²² <http://www.thewashingtonreview.org/articles/central-asia-the-new-great-game.html>

²³ Henderson Creelea, 2010 Shifting Sand in Central Asia: Geopolitics of Natural Gas Flow accessed on August 10th 2014(<http://www.bu.edu/iscip/Vol20/henderson.html>)

player in the international gas market, and the country has used its position as a major diplomatic and bargaining tool to promote its own interests. Therefore, Russia may feel uncomfortable about the TAPI gas project, as it would open up an alternate route for the region's gas away from Moscow's influence, thus weakening its influence on the European market and policies.

The relationship between Moscow and the Turkmen government in Ashgabat has been strained over gas prices and Russian dominance, and the Russian energy giant Gazprom has decreased its sales from Turkmenistan, thus leaving the field open for the Chinese to dominate.

China is a country with massive energy demands to feed its expanding economy. If it chooses to pursue newer gas ventures in Turkmenistan on terms favorable to the host country, this could leave the Turkmen political leadership facing a dilemma. China has already made major investment in Turkmenistan and China's National Petroleum Company began construction of the US\$ 8 billion Central Asia-China pipeline in 2009 which will eventually carry gas to Shanghai and Hong Kong. China is also the only foreign investor that has been granted direct access to a major onshore gas field.²⁴

Iran is a country with huge gas deposits but faces international sanctions, which isolates it and weakens its economy. It has been trying to offer an alternative gas pipeline (Iran-Pakistan) and cheaper gas to Pakistan. Iran also wants to remain integrated in the region and to blunt the effect of international sanctions through gas diplomacy. Ongoing discussion and negotiation between the five nuclear powers and Iran over the Iranian nuclear program may lead to the lifting of sanctions and restrictions on Iran, and Pakistan may then seek Iranian gas, thus potentially posing a major challenge to TAPI.

Despite the complications of this political wrangling, the Asian Development Bank (ADB) has assumed Transaction Advisory Role for the 1,800 km trans-national TAPI gas pipeline. The pipeline will be jointly managed by the four participating countries. "Under an agreement signed with the countries' state gas firms, ADB will advise on the establishment of the TAPI pipeline company, undertake **technical due diligence**, and handle the bidding and selection of a commercial consortium leader to build, own and operate the pipeline".²⁵

The cost of the project has increased manifold. "The pipeline will deliver 33 billion cubic meters of gas over the next 30 years to Afghanistan, Pakistan and India. India

²⁴ Olcott Brill, Martha, 2013, "The Geopolitics of Natural Gas", Harvard University's Belfer center and Rice University's Baker Institute Center for Energy Studies, 2013

²⁵ Asian Development Bank, 2013, "ADB to Assume Transaction Advisory Role for Historic Regional Gas Pipeline" (Accessed on August 22nd 2014 from <http://www.adb.org/news/adb-assume-transaction-advisory-role-historic-regional-gas-pipeline>)

and Pakistan each will receive 1.365 billion cubic feet (bcf) and Afghanistan will buy 500 million cubic feet per day over the next 30 years".²⁶

Brief profile of provinces

The TAPI gas pipeline has been discussed, debated, contested, negotiated and threatened for the last two decades and is once again in limelight. The TAPI gas pipeline may be routed through one of the most insecure and volatile regions in the world, but its path has earned it the name "Peace Pipeline". Afghanistan is the first country through which the pipeline passes, and it is very insecure. Meanwhile part of Pakistan is affected by an insurgency, while more than half million Indian and Pakistani soldiers face off along its border to India. India and Pakistan require huge energy demands to sustain their economic growth. While Pakistan faces an imminent energy crunch, India has huge potential for industrial growth if it can secure a sustainable source of energy. Pakistan's economic assets require energy to keep them running and generating goods and services.

According to the original plan the gas pipeline's journey through Afghanistan and will take it via Herat province, through Farah, Helmand and Kandahar to Baluchistan on the Pakistani border. There are several insecure and less developed districts along the route of the TAPI pipeline. But the gas pipeline will create scope for mutuality, reciprocity and engagement among the stakeholders in the hosting districts, bringing the government closer to people, besides generating job opportunities for local people and thus adding new perspectives to their lives.

In the following chapters, the profiles of each province are discussed to highlight the existing challenges and opportunities, with the aim of helping in the analysis of the information.

²⁶ Ibid

Herat province of Afghanistan

Herat is located in the west of the country. The city of Herat is linked to Ghor in the east, Iran in the west, Turkmenistan in the north, Badghis in the northeast and Farah in the south.²⁷ The province borders Iran and Turkmenistan and it is fairly developed and has good potential for developing further. The province has a large industrial area producing a number of things. In the words of the Western Forces stationed in the region, "Herat is the richest province in Afghanistan in terms of agriculture and industry. Most of Afghanistan's trade with Iran passes from Herat through the Islam Qala crossing and into Iran. Herat City is also connected to Kabul, Kandahar, Iran and Turkmenistan through the Ring Road – making Herat the hub for trade in the region".²⁸

Table: Provincial profile

<p>Herat: Western end of the country Land: 55,869 square kilometers Population : 1,762,157 Districts: 16 Number of Schools: 488 Health : 4 hospitals, 26 large clinics, 39 basic and 12</p>	<p>Figure (4): Map of Herat province</p> <p>Source: http://www.weather-forecast.com/locations/Herat</p>
<p>Economy</p> <p>Crops grown: Wheat, corn, rice, maize, beans, vetch, peas, etc. Industrial crops: cotton, sugar extract, sugar cane, sesame, tobacco and olives. Fruit: Grapes, pomegranates, melons, watermelons, oranges, almonds, walnuts, mulberries and vegetables such as potatoes, onions, tomatoes, carrots, cornflowers, spinach, leeks. Natural resources: Copper, iron, coal, marble, lithium, salt, stucco, precious stones, gold, cement, petroleum.</p>	

²⁷ A socio-economic and demographic profile of Herat/ UNIDATA-a project of UNDP/OPS and UNOCA

²⁸ Institute for the Study War, Demography and Terrian, (accessed on September 19th 2014: <https://www.understandingwar.org/region/regional-command-west>)

Security

There are several insecure districts in the province. Shindand has been targeted many times by the Taliban aiming to kill ISAF and national army forces.²⁹ There have been groups of insurgents in Adraskan, and Salma Dam has been under attack many times. Iranians have been accused of carrying out or sponsoring attacks on major infrastructure projects in the province.

A report carried out by The Keleed Group stated, "In April last year, security officials in Herat said they thwarted a Taliban plot to blow up the dam and confiscated 1,300 kg of explosives. According to Abdul Rauf Ahmadi, the police chief in the western zone, a delegation appointed by the Ministry of Interior Affairs to investigate the charges of Iran's involvement in dam-related attacks in Chesht-e-Sharif found weapons and ammunition that were made in Iran".³⁰ The insecurity in Herat is multi-facetted and supported by more than one actor, which could be detrimental for the construction and operation of the gas pipeline in the short and long term.

Infrastructure

Herat has by far better road infrastructure compared to other provinces. The roads connecting it to Turkmenistan and the Iranian borders are paved. Herat is one of the first provinces connected to rail-road with Iran. It has better access to electricity. Work is currently underway on the Salma Dam, which has capacity to produce 42 KW of electricity for the province once operational.³¹

Herat enjoys better facilities than many other provinces and some of its districts have access to electricity. People have access to TV networks as well as radio. There's also internet access in some districts. Access to radio is universal and 98% of the population has access to a radio. 55% have access to TV. Post offices and public phones also exist in Herat – there are eight local post offices and public phones in 15 villages.


²⁹ *ibid*

³⁰ Op-cit the Keleed Group report

³¹ Lal Aqa Shirin, 2014, "Salma Dam back on track", The Keleed Group (Accessed on November 9th 2014 <http://tkg.af/english/reports/political/1537-salma-dam-back-on-track>)

Farah province of Afghanistan

Farah is located in the eastern region of Afghanistan. It borders Helmand in the east, Nimroz in the south, Iran in the west, Herat in the north and Ghor in the northeast.

<p>Farah: Western end of the country Land: 49,339 square kilometers Population : 865,033 Districts: 11 Number of Schools: 350 (110,159 students) Health: Healthcare in the province is lacking. Over 50% of population have to travel more than 10 km to access health services</p>	<p style="text-align: center;">Figure (5) Map of Farah province</p>  <p>Sources: http://www.weather-forecast.com/locations/Farah</p>
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Economy

Industrial Crops: Cotton, sesame, tobacco, olives, almonds and pomegranates

Handicrafts: Carpets, rugs, jewelry and shawl making

Small and medium industrial base: Silk, karakul, honey and dairy products.

Most of the economic activities are concentrated around Pur Chaman, the center of Farah, Bakwa, Bala Buluk and Gulistan districts.

Natural resources:

Copper, iron, silver, salt, tungsten, tin, tourmaline, uranium mines (according to local mine department).

Security

Farah has gradually deteriorated over the past several years. Taliban insurgents are present across several districts where they have carried out raids against the coalition and Afghan security forces. There have been many attacks carried out in the past few years. The center of Farah, Khaki Safid, Bakwa and Bala Buluk are the districts affected by insurgency among others.³²

³² Program for Culture and Conflict studies, 2009 accessed on September 22nd (http://www.nps.edu/programs/ccs/Farah/Farah_Provincial_Overview.pdf)

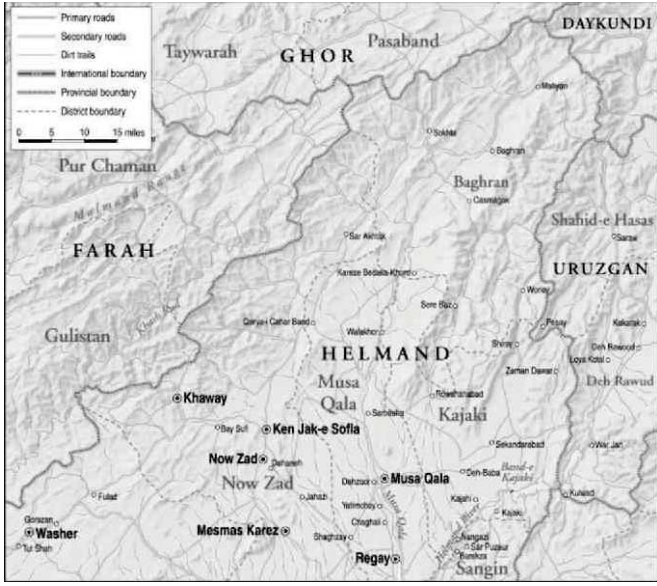
Infrastructure

The transport infrastructure in Farah is reasonably well developed, with nearly half (49%) of the roads in the province able to take car traffic in all seasons, and around a third (34%) able to take car traffic in some seasons".³³ But most of these roads are either in Bala Buluk and the center of Farah province while the remaining nine districts do not have roads.

³³ *ibid*

Helmand province of Afghanistan

Helmand is located in the south of the country. This province shares borders with Paktya, Daikundi and Ghor in the northeast, Oruzgan and Kandahar in the east, Nimroz and Farah in the west and Pakistan in the south.³⁴

<p>Helmand: South Land: 58,305 square kilometers Population: 1,441,769. The most populous districts in Helmand are Nade Ali, Lashkar Gah and Nahr-e-saraj</p> <p>Districts: 13 Number of Schools: 355 according to a survey (105,702 students – 23,102 female and 82,600 male). Health: 42 health centers, 10 sub-health centers and three hospitals</p>	<p style="text-align: center;">Figure (6) Map of Helmand province</p>  <p>Sources: http://www.understandingwar.org/sites/default/files/Helmand and North 0.jpg</p>
<p>Economy Helmand is the South Asian nation's largest opium-producing province.³⁵ Agriculture is the major source of revenue for 69% of households.</p> <p>Crops: Cotton, beat, sugar cane, sesame, tobacco, olives, wheat, corn, rice, maize, beans, vetch and peas.</p> <p>Handicrafts: Carpets, rugs, jewelry, shawls.</p> <p>Fruits: Grapes, pomegranates, melons/watermelons, oranges, almonds, walnuts, mulberries.</p> <p>Herbal products: aniseed</p> <p>Small industries: Honey, silk, karakul skin, confectionary.</p> <p>Major industrial crops: Cotton and tobacco, which are grown in 395 and 164 villages respectively out of a total of 693 villages.³⁶</p> <p>Natural resources: Onyx, uranium, magnate, carbonate, stucco, zing, plum bum, quicksilver, alabaster and others.³⁷ The province has natural water for irrigation.³⁸</p>	

³⁴ A socio-economic and demographic profile of Helmand/ UNIDATA-a project of UNDP/OPS and UNOCA

³⁵ DW, 2014 "Afghanistan poppy cultivation soars despite US efforts" Oct, 28th 2014

³⁶ Ibid

Security

The security situation in Helmand province is very poor. The province's insurgency coupled with the narcotics trade has made it a fragile place. The province has seen a massive presence of armed engagement. The coalition and Afghan forces have seen the largest casualties in the province. Internal as well as external factors can be attributed to the current insecurity of the province. Competition for water resources in the province is also a contributing factor to the insecurity there.

Infrastructure

Helmand's transport infrastructure is reasonably well developed, with 70% of the roads in the province able to take car traffic in all seasons, and 28% able to take car traffic in some seasons. However, in 5% of the province there are no roads. The province has the Kajaki dam which produces 33 Megawatts electricity.³⁹

³⁷ Mineral Resources of Helmand Province , Jan 2014 (<http://mines.pajhwok.com/news/mineral-resources-helmand-province>)

³⁸ Afghanistan Infrastructure and Rehabilitation Program, 2009 'Kajakai Dam Powerhouse Boosts Power to 33 MW, Benefitting Thousands in SW Afghanistan', dated Oct, 24th 2009 (<https://www.irp-af.com/?pname=open&id=261&type=html>)

³⁹ Afghanistan Infrastructure and Rehabilitation Program, 2009 'Kajakai Dam Powerhouse Boosts Power to 33 MW, Benefitting Thousands in SW Afghanistan', dated Oct, 24th 2009 (<https://www.irp-af.com/?pname=open&id=261&type=html>)

Kandahar province of Afghanistan

Kandahar is located in the south of the country and shares borders with, Zabul, Uruzgan, Helmand and Baluchistan of Pakistan?

Kandahar : South
 Land: 54,022 square km
 Population : 913,900
 Districts: 18
 Number of Schools: 472 (of which 262 are open with 28,607 students)
 Health: There are no hospitals, but there are 21 basic health centers all over the city meaning most people need to travel more than 10 km to reach the closest healthcare center. 22 comprehensive health centers and only two drug addiction treatment centers located in Kandahar city (center).⁴⁰

Figure (7) Map of Kandahar province



Source:http://www.understandingwar.org/sites/default/files/Helm_and_North_0.jpg

Economy

The province has harsh terrain. Kandahar remains one of the most undeveloped provinces. Only 27 percent of households have access to electricity, and only two percent of households in rural areas have electricity. Agriculture is the main source of income for a quarter of the population. Kandahar province produces tobacco, cotton, watermelons, grapes and nut trees, as well as opium. The province is the second largest opium poppy-producing province in Afghanistan.⁴¹

The districts of Arghandab, Dand, Panjwaians Maiwand are the most productive districts in the province. The economy of Kandahar depends upon agriculture with animal husbandry and commercial business coming second. Industrial crops like cotton, sesame, olives, sunflower, cumin and groundnuts are grown in different parts of the province, also field crops like wheat, barley and maize.⁴² Kandahar has recently seen some level of industrialization as well and reported by Pazhwak News Agency, "Based on the urban development plans land was distributed for 84 factories of which currently 72 are functional and the rest is closed due to lack of electricity. The main products of these factories are grills, aluminum and plastic uten-

⁴⁰<http://moph.gov.af/> Afghanistan provincial health profile – MoPH, HMIS department

⁴¹ Institute for the Study of War, Regional Command South, 'Kandahar' (Accessed on November 13th 2014 <https://www.understandingwar.org/region/regional-command-south-0#Kandahar>)

⁴² A socio-economic profile of Kandahar : UNIDATA – a project of UNDP/OPS and UNOCA

sils, sandals, oil, soap etc. Embroidery collars are the popular handicrafts of Kandahar".⁴³

The location of Kandahar at a crossroad which connects Kabul to Herat, and Quetta to the rest of Afghanistan this has been major factor contributing to the development of this province. Kandahar is best known for the many varieties of fruits production and fruits for export, such as grapes, pomegranates and apricots, apple, figs, peaches, pears, mulberries, almonds and plums.

Natural resources

Iron, marbles, fluoride, cement and coal mines.⁴⁴ The province has large land area yet to be explored for minerals and hydrocarbon.

Security

The security situation in parts of Kandahar has recently improved, but it is still a fragile province despite a major NATO base there. There are some districts where security has remained a major concern for both the NATO and Afghan security forces. The Institute for War Study states that "Kandahar remains one of the most volatile provinces in Afghanistan, and some of the province is controlled by elements of the Quetta Shura of Taliban. Kandahar is a strategically important province for the Taliban". The Taliban in Kandahar province conduct suicide attacks; roadside improvised explosive devices and landmine attacks, and ambushes. The Taliban target IS-AF, ANA and ANP forces along the ring road. Endemic corruption and criminality fuels the insurgency and undermines the effectiveness of the security forces, particularly the local police.⁴⁵

Infrastructure

The province has historically been a regional trade route and remains so thanks to its proximity with Pakistan. The Afghanistan national ring road will pass through Kandahar and the Asian Development Bank has also initiated a feasibility study of a rail road connecting the provinces with other major centers. The eight districts of Kandahar such as Kandahar (center), Daman, Khakrez etc. have a total of 3,127 factories. Workshops are more frequent than factories: they number 3,072 in the whole province.⁴⁶ The city has an international airport.

TAPI's journey through the four south and southwestern provinces of Afghanistan is not going to be without challenges. The security situation is a major defining factor that is likely to continue to influence decisions regarding the project's implementation. The human rights situation especially regarding women is poor in the country. Conditions for promoting the empowerment of women are improving in Kabul, but

⁴³ Pazhwak News Agency 2014, 'Background Profile of Kandahar Province,

⁴⁴ <http://mines.paihwok.com/news/minerals-resources-Kandahar-province>: January 14-2014

⁴⁵ Op-cit Institute for the War Study

⁴⁶ ibid

there is still a long way to go both in practice and theory. The situation of women in the provinces that host the TAPI pipeline such as Herat, Farah, Helmand and Kandahar, is made worse by prolonged and persistent conflict. According to the Afghanistan Independent Human Rights Commission 4,154 cases of violence against women were registered in 2012, of which over 30% were physical.

The empowerment of women is an important issue and it is closely tied to economic empowerment that allows them to be able to take part in family decision-making and participate in public spheres.

TAPI's onward journey into Pakistan

The TAPI pipeline enters Pakistan via Baluchistan, a province that already has a number of gas pipelines running to other Pakistani provinces.

It is important to look at the current situation in Baluchistan and highlight the potential challenges that may crop up for the pipeline's implementation at any time. The Baluchistan region is entangled in a long-running conflict, and so it is pertinent to touch on the actors in this conflict in order to illuminate potential obstacles to the implementation of the TAPI pipeline and look at early intervention.

Baluchistan

Baluchistan province was created in 1970 after the establishment of Pakistan. It is the biggest province in Pakistan in terms of area, but by contrast has the smallest population in the country. "It has common borders with all of the other three provinces, that's to say Khayber Pakhtokhaws through the Federally Administered Tribal Area (FATA) in the north, Punjab in the extreme northeast and Sindh in east. Baluchistan has a long coastal line with Arabian Sea in the south. In the west it has an 814 km long border with Iran; and finally in the west and northwest it has a border of 1,096 km with Afghanistan".⁴⁷

Baluchistan

Population: The population of Baluchistan is heterogeneous. It is the least populous province but rich in resources. "At five percent, about 8.5 million Pakistanis reside in the province. Baluchistan is home to roughly half a million ethnic Punjabis, or nearly six percent of its population, and to an even smaller percentage of Urdu-speakers. About 35 % of the population is Pashtun. Ethnic Baloch population (including Brahui) is about 6.8 million. Of these about five million reside in Baluchistan accounting for about 55 % of its population. About 27 % Baloch live outside Baluchistan, mainly in Sindh".⁴⁸

Figure (8) Map of Baluchistan



Source: www.Baluchistan.gov.pk/index.php?option=com_content&view=article&id=806

⁴⁷ Vision 21 Baluchistan Problems and Solutions

⁴⁸ Ibid

Education

Baluchistan is much less developed, and in several aspects the least developed province according to the statistics of the Economic Survey of Pakistan. It has the lowest literacy rate among both males and females, the lowest ranking in the Gender Parity Index (GPI) and the smallest presence of private educational institutes in the country. The rural part of Baluchistan completely lacks education infrastructure.⁴⁹ Only five percent of the national institutes are in Baluchistan, which is the lowest number in the country compared to the other three provinces.

Health: A joint study conducted by the government of Baluchistan and UN women shows acute respiratory infections (ARI) and skin infections represented major health risks in districts affected by the floods of 2010. Women were at high risk due to disruption in the provision of pre- and postnatal care.⁵⁰ The health situation reflects a lack of overall development in the provinces and shows the province is awaiting state-level intervention. Multiple factors such as drought, economic conditions and connectivity affecting the lives of inhabitants of the province.

Economy

Baluchistan province covers the largest land area in Pakistan and its geography offers a bridge to central Asia and Iran while its sea connection opens it up to international trade. The agricultural sector is driven largely by obsolete and outdated methods of production. The resulting lack of productivity is the main reason for poverty in Baluchistan.⁵¹ The agricultural products of the province include wheat, barley, hay and forage crops, watermelon, melon, onions, garlic, oilseeds, leafy vegetables, dates, bananas, lemons, oranges, mango, papaya, sapodilla, guava, grapes, figs and pistachios.

The incidence of poverty here is higher than anywhere else in Pakistan, even though it is rich in mineral wealth. Over 50 per cent of the population subsists below the poverty line. And while poverty in Baluchistan is more 'shared', the problem of income-based inequities in human development needs to be addressed.⁵²

Natural resources

The province is rich in natural resources which include petroleum, significant deposits of coal, chromites, barytes, sulphur, marble, iron ore, quartzite, uranium, and limestone along with 95% of the asbestos in the world.⁵³ The province also has other natural resources such as chromite, copper, manganese, lead and zinc, tin, tungsten deposits of the Non-such as talc, magnesite, white flowers and ornamental stone, especially granite and natural gas.

⁴⁹ Sayed Fazl-e-Haider, "The Worst Statistics for Education" Dawn, 2012

⁵⁰ Op-cit Government of Balochistan and UN Women, Situation Analysis of Balochistan

⁵¹ Karimzadeh Majid, 2012, "Economy of Balochistan: Potentials and Constraints across National Boundaries", Aligarha Muslim University (Accessed on November 11th 2014

http://www.academia.edu/3859486/Economy_of_Balochistan_Potentials_and_Constraints_across_National_Boundaries)

⁵² Op-cit "The Worst Statistics for Education

⁵³ Alok Bansal, "Factors leading to insurgency in Balochistan," Small Wars & Insurgencies, 19:2, (2008)

Security

Security in the province is threatened by the Baloch Nationalist Movement as well as ethnic conflict, and it is also worth mentioning that the Afghan Taliban leadership resides in Quetta. The Baloch Liberation Army has in the past attacked any project that was associated with the Central Government. There were 218 attacks on gas pipelines in Baluchistan between 2005 and 2014.

Infrastructure

Although it is one of the largest provinces there is little civil infrastructure in place in Baluchistan, while mega-projects have been implemented in the case of the Gawadar and Mir Qasim ports, for example. The Gawadar Port has led to the development of several new projects aimed at improving the fortune of the province and providing it with better connectivity with the rest of the country and urban centers. "The construction of the port has spurred other major infrastructure projects in the area. This includes the 700-km Makron Coastal Highway. The road links Karachi with several ports along the coast including Ormara, Pasni, and Gwadar. The highway has reduced travel time to Karachi from 48 hours to only seven hours. Other road projects include the Gwadar-Quetta-Chaman road which is due for completion in 2006 and a road link to the town of Khuzdar in eastern Baluchistan. There are also plans for a terminal for passenger ships".⁵⁴

⁵⁴ Op-cit Karimzadeh Majid, 2012, "Economy of Balochistan: Potentials and Constraints across National Boundaries

Punjab

Punjab is the most populous province of Pakistan and is by far the most industrialized province with over 20 established industrial cities.

Punjab

Punjab has 94 million people, and is traditionally the center of political, economic, and cultural life.⁵⁵ With 147 seats, it accounts for more than half the seats in the National Parliament. At 258.5 inhabitants per square kilometer (1998), it is the most densely populated province in Pakistan.

Education: Literacy in Punjab province is high compare to other provinces and it has many urban centers.

Health: In spite of an extensive network of health care facilities, the health status of the people of the province as a whole is below the desired level. Infant mortality rate is 77 per 1000 live births. The mortality rate for under-fives is 112 per 1000 live births. The maternal mortality ratio is estimated to be 300 per 100,000 live births, lower than the national figure 350. The total fertility rate in the province is estimated to be 4.7. 92 percent of the population has access to improved drinking water sources; whereas 58 percent of the population in

Figure (9) Map of Panjab



Source:<https://www.aei.org/publication/could-the-taliban-take-over-pakistans-punjab-province/>

⁵⁵ Majidyar K. Ahmad, 'Could the Taliban Take Over Pakistan's Punjab Province' American Enterprise Institute Dated July 17th 2010

the province has access to sanitation".⁵⁶

Economy & Infrastructure

Punjab has many large industrial concentrations. Notable examples are textiles, leather and light engineering goods industries. "Punjab has more than 48,000 industrial units. The small and cottage industries are in abundance. There are 39,033 small and cottage size industrial units".⁵⁷ The province also produces over 68% of the annual food grains. The province contributes 65% to the national GDP. It has over 60 of the national industrial units⁵⁸

Currently the country as a whole has been experiencing energy shortages and that has affected industrial growth and new businesses. The effect of the energy crisis on the economy and the industry of the province has been serious. Punjab accounts for 62% - 68% of the total national consumption of electricity, and currently faces a shortfall of electricity of around 3300 MW.

- The Sui Northern Gas Pipeline Limited is facing shortages of 700 MMcfd
- Compressed natural gas (CNG) stations across the province are closed for 3 days a week
- 6-18 hours of power load shedding during peak demand is a norm in urban and rural areas
- Severe gas shortages

The energy crisis according to provincial government officials will have a knock-on effect beyond the economy. Several industrialists have threatened to move out of the province if the gas supply issue is not resolved. Textile production in the province has dropped 25 percent owing to gas shortages. Hundreds of thousands workers have become unemployed as a result.⁵⁹ The energy crisis, especially the gas shortage, may push industry out of the provinces. This may lead to a serious increase in economic crime as a result of unemployment. As the province with the highest population, and with major industrial zones making it the largest contributor to the national GDP as well as consumer of more than half the gas production in the country, Punjab's demands for more energy and gas are set to continue, and that may have internal implications for the country and its distribution policy.

⁵⁶ http://health.punjab.gov.pk/?q=Punjab_Health_Profile (Accessed on May 23rd 2015)

⁵⁷ Profile of Punjab as maintained SMEDA(as accessed on November 11th 2014

http://www.smeda.org/index.php?option=com_content&view=article&id=69:punjab&catid=44&Itemid=174

⁵⁸ Energy Department Government of Punjab (Accessed on November 13th 2014

http://energy.punjab.gov.pk/punjab_energy_scenario.html)

⁵⁹ Op-cit Energy Department Government of Punjab

Security

Punjabi has been used as ground to nurture non-state armed groups in the past and often these groups have been used in Kashmir.⁶⁰ The militants from Punjab have been fighting in Afghanistan and thousands of them were killed during the US raids in 2001. Some of these battle hardened militants have returned to Punjab and established bases in the south. Rural districts in southern Punjab have become sanctuaries and training areas for both banned Punjabi terrorist groups and Pashtun and al Qaeda fighters escaping the FATA⁶¹.

There is an increase in the presence of militants in deep parts of south Punjab which borders Khayber Pakhtonkhwa. The Taliban's influence is also increasing in the district of Bahawalpur, the location of Jehis-e-Mohammadi (JeM's) headquarters. At the time of the 9/11 attacks, there were already between fifteen and twenty thousand trained militants in the district.⁶² These armed groups and networks may threaten development projects in the region and TAPI would not be an exception to this threat.

⁶⁰ Op-cit Majidyar K. Ahmad, '*Could the Taliban Take Over Pakistan's Punjab Province*'

⁶¹ Ibid

⁶² Op-cit, Majidyar K. Ahmad, '*Could the Taliban Take Over Pakistan's Punjab Province*'

Opportunities with TAPI

Development may see an impact as a result of the TAPI gas pipeline construction. Economic opportunities, infrastructure and increased security would all provide chances for more inclusive development across the rural part of Afghanistan. The TAPI pipeline through part of Afghanistan will directly and indirectly offer opportunities for the state to access remote and rural communities and take education and healthcare to them, increasing their security and encouraging more investment in their future. It will forge links between people in these areas and the wider population, offering the chance for more social exchange and a gradual process of urbanization. Information technology may also provide a strong agent of change in people's worldviews and in cultural exchanges, and help to bring about smooth and informed changes. Crucially it must be said that Afghanistan does not have a national plan for gas from the TAPI pipeline and we urgently need to commission a study as to where gas supplies are needed and for what purpose⁶³. Khundai Noor Manderkhil, the former head of Afghan Gas who has worked in the branch for 40 years said, "We had plans for the internal use of gas in 1977 when things were not so developed. Today we have huge human capital with a better education and yet we have no plan in place. We are driven by individual profits rather than the collective good, and that is why we have been left behind".⁶⁴ Jalil Jumrani, the former director general of the Petroleum Authority of MoMP in Afghanistan thinks that "The best policy option Afghanistan has is to work on its own reserves and get its own gas. Projects like TAPI take a lot of time, especially when it is between two regions. Central Asia and South Asia have a lot of cultural differences - Central Asia has lived under the influence of Russia and South Asia has lived under the influence of the English system. Afghanistan has enough gas and if the government puts efforts into exploring it, it could give them an opportunity to sell our gas to South Asia".⁶⁵

Education and access to information may enable the rural population to participate in the discourse of development and governance. An increase in the awareness of local people is inevitable as they come into contact with new literature and culture, thus leading to change. Female education, which is considered key to poverty reduction and economic development, will see a boost too.

Civil society will flourish as important actors in this environment, occupying a place between the state and society and ensuring a more balanced relationship, constantly seeking correction in the behavior of stakeholders. The construction of the TAPI pipeline will lead to civil society beginning to tackle and deal with different issues such as the social and environmental impact of the pipeline, the local benefits, security, the development of gender equality, governance, empowerment and economic development.

⁶³ Interview with Manderkhile former head of Afghan Gas, dated November 24th 2014

⁶⁴ Ibid

⁶⁵ Jalil Jumrani, former Director General Petroleum Authority of Afghanistan, December 17th 2014

Gas pipelines bring with them opportunities in various forms and to varying degrees depending on the abilities of the hosts to tap them. Governments in many countries will try to achieve a macro-economic package out of a deal. Some benefits may be both monetary and non-monetary. Some benefits may be accrued by the state immediately, while other benefits may be manifested by long-term changes in the hosting region. The impact may vary from region to region, and this underlines the importance of other variables that influence the output and changes. The economic and other impacts of the TAPI pipeline may be gauged better after the project is underway, however for the purposes of this study, the impact is drawn from other gas-pipelines in other parts of the world.

A number of leading experts in the region have expressed optimism at the project and have expressed their belief that the project would provide an opportunity for spurring development in the region. Radha Kumar, the director general of the Delhi Policy Group, a leading think-tank on security in the region, says that the main benefit of the TAPI pipeline would be its bringing energy to the energy-starved region.⁶⁶ Ikram Sehgal, a senior security analyst who regularly writes on the region, adds that the TAPI pipeline will bring something that both Afghanistan and Pakistan need.⁶⁷ There are going to be more opportunities for growth, and among them economic growth is very important.

⁶⁶ Radha Kumar Director General of Delhi Policy Group, December 13th 2014

⁶⁷ Interview with Ikram Sehgal Analyst and Chairman of Pathfinder Group, dated December 18th 2014

Economy

The economic incentive is just one factor that has spurred the countries participating in the TAPI gas pipeline project. The benefits certainly range far beyond the supply of gas and the receipt of transit fees. The TAPI pipeline also offers numerous opportunities to both Afghanistan and Pakistan for the development and security of the region. But some of the economic opportunities are as discussed below:

Employment

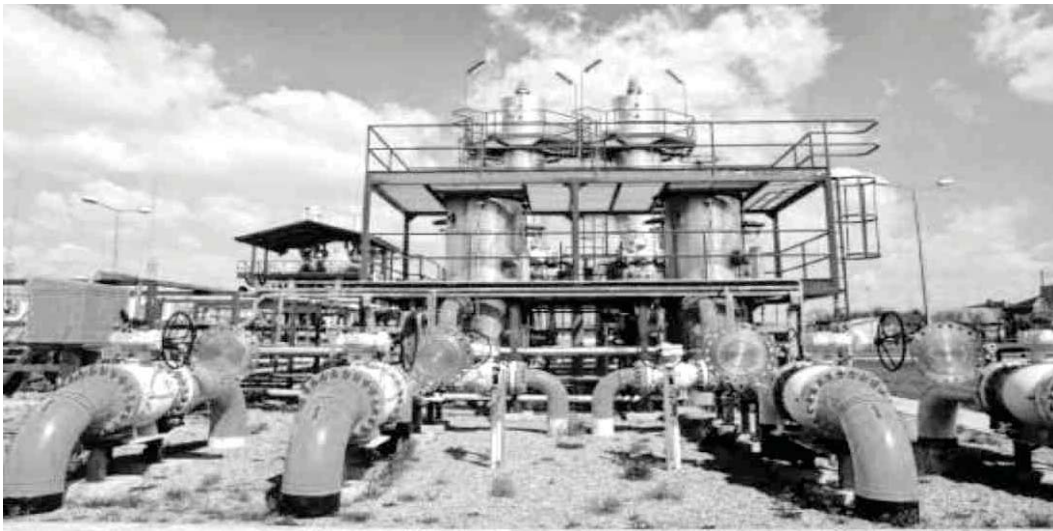
Gas pipeline projects bring with them job opportunities in not only the construction phase, but also the operational phase. Highly-paid jobs such as engineering, architecture, administration, logistics and security position could be tapped by locals. Some of the construction activities require unskilled and semi-skilled workers – the physical marking of the route of the pipeline, excavating for the pipeline and burying the pipeline. Additionally there may be an indirect creation of jobs. It is an important benefit for the citizens, and politicians would be prudent to echo this employment as one of the most important achievements for the country. Some of the activities that are involved during the construction phase are:

1. Surveying and clearing the right-of-way
2. Right-of-way preparation
3. Hauling and stringing the pipe
4. Bending the pipe
5. Welding
6. Digging the trench
7. Lowering the pipe
8. Installing valves and special fittings
9. Crossings
10. Backfilling the trench
11. Testing
12. Cleaning up
13. Community Consultation and Socio-Economic Coordinator, Cultural Relations Coordinator, Employment and Training Counselor
14. Environmentalist
15. Renewable Resource Technician
16. Wild Life technician
17. Computer operator
18. Mechanics

Construction

The TAPI gas pipeline is over 1,800 km and connects four countries in South and Central Asia. The pipeline will be laid through deserts, mountains and plains, making it a difficult project. Additionally, each country will off-load its own share of gas to a certain part of their territory. Gas off-loading requires complex technology to extract gas from the pipeline and channel it into sub-distribution pipelines. This provides opportunities for local construction companies in the four countries. The figure below shows a complex piping system constructed for gas off-loading.

Figure (10) Gas off-loading station



Source: <http://www.inqworldnews.com/poland-ec-confirms-funding-for-more-pipelines/>

Figure (11) Pipeline construction



Source: <http://www.intrakat.gr/en/activities/construction-of-the-komotini-alexandroupoli-natural-gas-pipeline-2/>

This will provide several months of employment for local people along the route of the pipeline. It will certainly inject lot of revenue into the local economy during the construction period.

For the successful laying of the pipeline, workers would be required for most of the categories mentioned above. The contracts for hauling and stringing the pipe, welding, digging the trench, lowering the pipe and cleaning up would be short term but there would be many of them. These would provide good opportunities for the local labor force in Afghanistan as well as Pakistan. The number of jobs generated could reach into the thousands, although a more realistic estimate at how many people could be employed will only be possible after the feasibility study of the pipeline and its routes.

Demand for goods and services

Work on the pipeline will generate short-term demand for materials such as sand, gravel, cement, medicines, food items, mechanical services, spare parts, transportation services and others. The construction industry that came into being following the US-led intervention in 2001 was dominated by foreign contractors who made what they could out of lucrative contracts and left the locals to make do with what was left. Some projects were carried out by local sub-contractors, after the job had been sub-contracted five to six times before reaching them.

The TAPI pipeline is a construction project with a limited timespan but one which offers opportunities that will benefit the local people. They can supply some of the goods and services required by the project implementer. Companies constructing a gas pipeline would require accommodation at several stages during the project. A number of technical staff are likely to be deployed to carry out the feasibility study, surveyance work and technical work. This in itself would boost the local hotel industry to some extent. All in all, the involvement of local companies increases the stake of the local population in the project, and provides the basis for the social license for its implementation and operation.

Industrialization

The TAPI gas pipeline could help to unleash the industrial potential of the region. The provinces that will host the TAPI pipeline along its route have material reserves appropriate for industrialization. Herat, for example, has reserves of oil, gold, copper, iron, coal and marble among other natural resources. In addition Afghanistan will receive 20 percent of the gas allocated under the TAPI pipeline agreement. Although it does not amount to a massive volume of gas, Afghanistan could make use of it to promote industrialization in some provinces which already have infrastructure in place. Herat and Helmand are two provinces that could be host to gas off-loading stations. This gas could be either used to generate electricity or allocated for other industrial uses aimed at catalyzing the growth of indigenous industry. However, it

remains of critical importance that security is provided to guard the pipeline against Taliban attacks or from coming under its control.

According to Ikram Sehgal, Pakistan plans to extend the gas distribution network to Khyber Pakhtunkhwa and Swat to provide opportunities for industrialization.⁶⁸ The TAPI pipeline has a huge multiplier effect on the industrial growth of the region and is a great incentive for building infrastructure and making the region safe for businesses to operate in. It also offers the opportunity of integrating into a productive economy the people who live on the periphery or who may otherwise feel marginalized.

Infrastructure

Infrastructure is an important factor for potential businesses and investors. An adequate infrastructure in an area increases the chances of investor interest, since that infrastructure is crucial to the cost of production and transporting a product to a wider market.

Roads

As mentioned, the TAPI pipeline will cross deserts, water and mountains, and for its construction it will be important to have road access to the route. The TAPI pipeline will require governments to build several thousands of kilometers of roads that will connect villages and remoter districts to provincial and inter-provincial centers. The roads will provide the opportunity for local people to commute to other places, mix with other citizens and explore new opportunities. They will also enable investors to invest in local opportunities, trade in local products and take them to other markets. Roads have been key to development as they provide access to remote areas for the state to reach, to reach out to the people and bring them into the folds of “productivity” and “modernity”. As well as facilitating greater security for the rural population, they also provide opportunities for economy, education and better public services.

Electricity

A supply of electricity is required along the route of the TAPI pipeline at least. Gas off-loading stations would require more electricity. Participating countries have the opportunity of expanding their electricity grids not only to supply the requirements of the TAPI pipeline, but also for potential economic clusters and communities along the route. Electricity and information technology increase the contact between urban centers and the periphery. It increases efficiency and economic productivity, and may provide greater feedback to the policy makers so they can respond to the needs of local people. Overall electricity and information technology allow local people to play a greater role in the development of their region and improve its governance.

⁶⁸ Op-cit Ikram Sehgal

Stability

There are certain major stability factors that must be considered in association with the implementation of the TAPI gas pipeline. Economic opportunities will also open the scope for development and thus expand the choices of citizens. As the first step towards providing employment and security for the region's people, it may also be a step towards the "freedom from fear and freedom from want which is the post Millennium Development Goals for effective participation, equality and economic benefits"⁶⁹. There is great potential for the participating states to benefit from it and engage their citizens more constructively once the pipeline is laid out. Many districts that will provide the route for the TAPI gas pipeline are unstable, with conflict being fuelled by a combination of factors. Among them economic reasons hold primacy. Besides offering several economic opportunities, the TAPI gas pipeline provides a legitimate reason and a way for the state to secure the installations and reach out to the citizens at the grassroots.

It must be said that Afghanistan is slowly emerging from a protracted conflict that lasted over three decades. The conflict has led to the destruction of state institutions and other social structures. The absence of state institutions has led to a decline in the participation by citizens in the governance of the country. Institutions of social importance such as mosques have assumed a dominance and now the state finds itself competing for the loyalty of its citizens. It may take decades of hard work for the state to gain the support of the majority of its rural population, but the TAPI pipeline and other such projects offer opportunities for it to engage and offer citizens benefits in return for their trust and loyalty.

The TAPI gas pipeline construction requires great mobilization that in turn will involve many international standards and policies forcing the state and citizens to negotiate for benefits and interests. The dialogue and non-violent means of negotiation involved in this interaction represent a win-win situation for all the parties involved. A comprehensive feasibility study of the pipeline will be followed by an environment and social impact assessment. These studies would help to define the major impacts of the project, and help to avoid or mitigate the adverse ones through mechanisms in line with acceptable international standards. These activities more often result in the socialization of national and international laws and standards, and a closer relationship among stakeholders and thus may facilitate a shift in loyalty of citizens towards state and government. This may lead to better governance as citizens' awareness of their rights and the obligations of the government may make them hold the government accountable. It is important to mention that people with access to education and economic opportunities are likely to be better and more coordinated in exercising their civil and political rights.

⁶⁹ http://www.un.org/millenniumgoals/pdf/Think%20Pieces/9_human_rights.pdf

The pipeline's current route shows it will pass through remote villages in the south and west of the country and will require elaborate and sophisticated mechanisms to secure it from attacks. As part of its efforts to secure the pipeline, the Afghan government should take into consideration the region's population and to work on plans and develop strategies to include them as beneficiaries. Guaranteeing security for the pipeline will mean the state showing its presence in those unstable and remoter areas, which in turn offers a conducive opportunity for development work to be carried there as a result.

The majority of the rural population does not have schools, hospitals, access to drinking water and faces difficulties in reaching urban centers. The TAPI pipeline will bring more schools, clinics and markets to people, and within the secure area around the TAPI pipeline the state can take this opportunity to build clinics, hospitals and roads thus expanding local choices and facilities. The state providing a service to people in an equitable manner is another indicator for a responsive and legitimate state, and this will gradually strengthen the relationship between the state and its citizens. An improved relationship will have direct impact on internal security, and armed non-state actors will find it difficult to threaten the project if it has the support of the local population. Development and security practitioners in Afghanistan envisage both tangible and intangible benefits of the project. The former member of the Afghan parliament and security expert Wahed Taqat said that, "Afghanistan will receive many benefits from the project such as gas, transit fees, employment, security and integration. Gas will secure the Afghan consumers against the gas mafia internally"⁷⁰. Meanwhile the agreement between Afghanistan, Pakistan and India may also bring the leadership of these countries to a common point of interest, and thus strengthen the resolve for working towards the stability of Afghanistan. Ghafoor Lewal, the director of the Afghan think-tank, Regional Study Center, says that the realization of TAPI could indeed bring security to the region. Conditions for the TAPI project have improved with the signing of the Bilateral Security Agreement between the US and Afghanistan and there is ever more international political support for the project.⁷¹ Integration with Pakistan through mutually beneficial economic projects such as TAPI and CASA 1000 is very positive. Kabul University professor Lutfullah Safi says that integration through TAPI will encourage Pakistan and Afghanistan to work for the security of the project.⁷²

The security mechanism for the TAPI gas pipeline will include discussions on Baluchistan as well. The government in Pakistan may see the TAPI project as a package of opportunities to engage the disillusioned Baloch people and help them use this opportunity for development. This would involved Pakistan coming up with development

⁷⁰ Interview with Wahed Taqat former MP and security expert November 16th 2014

⁷¹ Interview with Ghafoor Lewal, Director Regional Study Center, dated November 17th 2014

⁷² Interview with Professor Lutfullah Safi of Kabul University dated November 16th 2014

processes to respond to the needs of the Baloch people in order to connect them and elevate their social and economic status.

The TAPI pipeline will also require discussion about collective security. The discussion on how to deal with security surrounding the TAPI pipeline may have two outcomes - on one side, it could generate cooperation and a sense of belonging to one region, whilst on the other side it may be seen as interference in the sovereignty of a country.

TAPI's integrating role:

The South Asian Association for Regional Cooperation (SAARC), the regional forum of eight Southern Asian countries has not progressed largely due to the long standing territorial dispute between India and Pakistan. The SAARC countries need to integrate their economies to achieve competitive edge to be able to grow together and compete with other regional forums such as the EU, ASEAN and the AU. The TAPI gas pipeline has the potential to integrate the region similarly to the way the ASEAN Council on Petroleum (ASCOPE)⁷³ pursued and constructed the Trans-ASEAN gas pipeline (TAGP). It is a massive energy network borne from the ASEAN Vision 2020 and connects the markets in the region. ASCOPE's objective was to promote active collaboration in the development and utilization of petroleum, to provide assistance to each other in training at facilities, to facilitate the exchange of information and to maintain a close and mutually beneficial relationship.⁷⁴ The task force working to ensure smooth implementation of the TAGP project engaged a number of expert working groups to identify the main challenges facing the implementation, and agreed on a range of issues that had to be ironed out before the project got underway. The pipeline has led to nine other inter-state gas pipelines being built, thus integrating the whole region into one network. "TAGP has had a significant impact on the ASEAN countries and some of the benefits are summarized as

- Augmenting energy supply, security and promoting energy diversification to reduce dependence on oil.
- Monetizing and maximizing the value of excess indigenous natural gas resources in the region
- Enhancing foreign income earnings from gas exporting countries
- Creating local gas infrastructure/markets and other spin-offs to industrialize the economies in the region
- Promoting the use of natural gas, which is a more environmentally-friendly fuel
- Promoting regional cooperation to enhance energy security and reducing the reliance on energy/gas imports from outside ASEAN, dampening the external effect relating to energy/gas supply uncertainties and gas price volatilities".⁷⁵

The regional insecurity is defined by several fault-lines both intra-state and inter-state, some with historical roots while others are of more recent origin. The TAPI pipeline has huge potential for integrating the region and locking states into such an

⁷³ The ASEAN council on petroleum was established on October 15, 1975 as an instrument for regional cooperation among member countries

⁷⁴ International Gas Union;s Gas Market Integration Task Force (Accessed on December 28th 2014, file:///C:/Users/Sayed-Jawid/Desktop/Transasean.pdf)

⁷⁵ Ibid

energy network. Pakistan and India are both industrialized countries and are growing in size. They need energy for sustained economic growth. Raffaello Puntucci, an international security expert and director of International Security Studies at the Royal United Services Institute, knows the region well. He says, "In the longer-term it should help bind the two together, by making their economic fortunes tied more closely together like this, it might start to foster a habit of collaboration and this will help security".⁷⁶ The belief about the integrating role of TAPI is shared by Pakistani scholars as well. Peshawar-based reporter and PhD scholar Riffatullah states, "TAPI would be a step forward towards the integration of the region, but it is just a single step and the region would need several programs for integration. The Pakistani state seems to be ready to engage with the Baloch people through a more constructive mechanism and TAPI offers an opportunity to define it. The government is trying to win over the Baloch people and it would not hesitate to share the benefits of this project with the people of Baluchistan, a state that has lagged behind and where a lot needs to be done to bring it on a par with the rest of the country".⁷⁷ "The TAPI gas pipeline could kick-start regional integration: Interdependence could usher in a host of new opportunities for the people of the region and an era of development and prosperity would start".⁷⁸ "Pakistan needs energy and Afghanistan is on the cross-roads, so we need to get gas and electricity through Afghanistan and therefore need to start integration".⁷⁹

India is the last country receiving gas from the pipeline and therefore has a huge stake in the project and stability of the project. For the successful construction and operation of the gas pipeline . the countries participating in the TAPI pipeline would have to work on a symbiotic relationship towards the collective security and stability of the region.. There is fear among some segments of Indian. But Indian security experts believe integration into the project upstream may make them dependent on the moods of Pakistani government and state which makes India wary about the security of the pipeline traversing through Pakistan".⁸⁰ India has yet to feel the psychological comfort of being a major stakeholder in the pipeline. The US government has been encouraging the countries to make the project a success. The US State Department said in a statement that "The United States supports TAPI because we believe it has the potential to be transformative for the future of the entire region. The pipeline project is a true multinational effort and, if realized, can serve as an important example of the benefits of greater regional economic connectivity".⁸¹

⁷⁶ Views shared by Raffaello Puntucci Director International Security Studies at Royal United Services Institute dated November 9th 2014

⁷⁷ Interview with Akhtar, Sub-editor at The News International, November 11th 2014

⁷⁸ Views shared by Riffatullah a reporter with the News International and Phd scholar at Peshawar University dated November 10th 2014

⁷⁹ Op-cit Ikram Sehgal December 18th 2014

⁸⁰ Dadwal Roy, Shebonti, 2011, "TAPI-Still a distant dream, IDSA May 12th 2012

⁸¹ Press Trust of India, "US Believes TAPI Pipeline Project Can Transform the Region", (Accessed October 20th 2014)

The states in the region need to work closely on regional security by improving security in their own countries, since threats to security often have regional roots. A new thinking may bring mutuality about collective security.⁸² As a regional forum for cooperation among countries the SAARC has a chance of being strengthened due to the pressing need for the TAPI project to be successful. The Pakistani prime minister summed up his thoughts and intent by saying, "We also agreed that connectivity and regional economic cooperation are the indispensable elements of our engagement. The pipeline has also brought India and Pakistan to the same platform to discuss securing gas for their countries and this relation may evolve into long lasting relationship founded on mutual interest. We envision trade, energy and communications corridors through trans-regional initiatives like CASA 1000 and the TAPI gas pipeline."⁸³

Both provinces in Afghanistan and the one in Pakistan have been experiencing various kinds of conflicts and work on the pipeline needs serious collaboration to secure the area. Security in the region may also open doors for investment in the mines that present opportunities both in Afghanistan and Baluchistan. Incoming investment in the region would encourage migration to these regions, thus generating a peace producing domino-effect. Peace in Afghanistan is important for the security of the entire region and more such projects could help connect markets in the region.⁸⁴ The railroad linking Central Asia to South Asia is another necessity to facilitate trade and exchanges.

Being the larger partners in the project, India and Pakistan should work closer to facilitate its successful operation. By working towards making the TAPI project a success, the participating countries will end up cooperating, and perhaps go some way to resolving the hitherto elusive regional stability. Collaboration over the TAPI project could have a long term ripple effect, leading to cooperation in other sectors as well such as trade, culture and dialogue among peoples.

⁸² Op-cit Ghafoor Lewal

⁸³ Prime Minister Nawaz Sharif during joint press conference with President Ashraf Ghani on November 15th 2014

⁸⁴ McCauly, Martin, Afghanistan and Centre Asia: A Modern History of, 2002

Potential threats associated with TAPI

The long-standing goal of the major powers to see the TAPI pipeline laid through Afghanistan may require both India and Pakistan to leave their comfort zones regarding long drawn-out disputes. Pakistan may have to accept what it sees as Afghanistan's 'escalatory inclination towards conflict' but may want to have contingencies in place before allowing such a strategic leverage. India may also respond to situations in a similar pattern. Such mindsets among the participating countries pose a major discursive threat to the project, besides the threats of physical attacks to the project, which are discussed in the following section.

The TAPI gas pipeline itself brings some risks to both the communities located along its route and the immediate environment. The construction and operational phases of the pipeline would be accompanied by the movement of machinery and the clearing of ground to lay the pipeline. It is imperative to underline that the feasibility study and the social and environmental impact assessment may provide a greater accuracy of the pipeline construction and its impact after going into operation.

Some resettlement is to be expected but this will depend on the final design of the project. The extent of resettlement is expected to be very low, as the completed and operational gas pipeline does not impose land use restrictions on large land areas.

Potential negative impacts of the project would arise from the consequences associated with an influx of people from other parts of the country and from outside who come for employment and could potentially change the social dynamics of the area. In-migrants may bring diseases, they may inflate land prices, and there could be an increase in competition for resources.

The construction phase of a pipeline will tentatively involve laying the actual pipe, which will involve the following activities:

- Land acquisition for the pipe, construction camps and possible extraction of natural materials. There may also be some land that will have to be acquired from local residents if the detailed design of the pipeline transverses built up or cultivated land;
- Land clearance for construction activities related to the laying of the pipe and construction camps;
- Creation of a few access roads to facilitate construction and operational activities;
- Placement of portable toilets for use of construction workers during this construction phase;
- Hauling of material from various material sources and camps that will be used for construction;

- Construction of several stations in various locations including along the route.⁸⁵

Each station would require land and the pipeline as whole may require a buffer zone up to 500 meters wide. There will be compressor stations along the course of the TAPI pipeline. These activities and projects will have a major social and environmental impact on the surroundings.

If the TAPI pipeline passes through residential and agricultural land on its defined course, that may require land clearing that could lead to the displacement of inhabitants as well as land acquisitions. Besides this, the level of corruption in Afghanistan and land-grabbing by powerful figures poses an additional threat to the people and the project. There have been reports of hundreds of thousands of hectares of public land seized by warlords and powerful political figures for self-enrichment and the expansion of social power bases.

These activities could mean international standards have to be applied if the human displacement is great. Land acquisition will lead to displacement and a disruption in the daily lives and economic cycles of local people, in turn potentially bringing an adverse impact to rural communities and thus increasing their vulnerabilities. Although international standards foresee proper procedures for safeguarding people's social and environmental conditions, a negative impact cannot be ruled out. The majority of people in Afghanistan do not possess proper property deeds and land acquisitions may lead to territorial disputes.

The social impact during the operational stage may be more permanent. The TAPI pipeline may require a buffer zone during operation and that may affect the public right of way for communities along the pipeline. In traditional communities such as in Afghanistan, it may lead to fragmentation, isolation and an inaccessibility to water and agricultural land. It may have a major impact on women and their mobility in villages and communities as a result of outsiders coming in to build the project. It may lead to a constraint on public choices, thus fuelling resentment among those affected.

The operation of the pipeline may lead to in-migration of a technical workforce as well as others seeking job opportunities. Employment opportunities, especially those requiring expertise, may attract people from other areas, resulting in the local workforce complaining of discrimination and unemployment. Such developments at a local level have more often than not led to discontent thus paving the way for conflict.

⁸⁵ East African Community, 'Environment and Social Impact Assessment for construction and operation of Natural Gas Pipeline From Dar-es-Salam to Tanga, Report no. P-073620-023 November 2010,

Environment

The TAPI gas pipeline may have a potential impact on the environment. The land requirement for the pipeline may lead to some serious changes. The trench and buffer zone for the pipeline may require deforestation and clearing vegetation thus disrupting fauna and livestock in and around the areas, particularly the immediate vicinity of the proposed route. Dust particles arising from construction activities may be a source of air pollution. Construction activity would cause possible noise disturbance and vibrations. There may also be potential disruption to other infrastructure in the identified areas, although it is not expected that the disruption will reach significant levels. The pipe itself represents a risk of pollution in the surrounding area in the case of a leak, fire or explosion. Tim Williams lists the impact of pipelines as follows:

- **Atmospheric environment:** Air quality can be affected by dust during construction and by air contaminants emitted by the combustion of fossil fuels used for construction equipment and pumping stations (if not driven by electricity). Emissions of greenhouse gases directly related to the project are generally insignificant, relative to national emissions.
- **Acoustic environment:** Noise is increased relative to background noise by construction activities and the operation of pumping stations.
- **Soils:** Soils can be eroded, compacted and mixed, contaminated and removed, and they can be acidified by local emissions of chemicals causing acid rain.
- **Geology and terrain:** Possible alterations of geology can cause landslides, along with accompanying risks to safety and environment, such as to fish habitat.
- **Vegetation:** Vegetation (including old growth forests and rare communities of plants) can be affected by surface disturbance, changes in water flows, the arrival of alien species and air contamination.
- **Wildlife:** Risks to wildlife can be caused by the removal, alteration and fragmentation of habitat, as well as by noise, changing access and sightlines for predators, and the creation of barriers to movement.
- **Surface water resources:** Water quality and quantity could be affected by erosion and crossing excavations as well as by herbicides applied to maintain a clearing around the pipeline.
- **Freshwater fish and fish habitat:** Activities related to the pipeline such as the clearing of vegetation, and the grading and placement of structures in water, have the potential to affect the productive capacity of fish habitat, migration, and fish health and mortality.
- **Hydrogeology:** Blasting, grading and tunnel construction could alter both surface and groundwater flow and expose rock formations, which could potentially leach acid or metals.

- Palaeontology: Fossil resources, which are important for the scientific understanding of evolution and climate change, can be affected by direct construction activities as well as by fossil collectors who have increasingly greater access to these resources.⁸⁶

The possibility of leakage from the pipeline and other incidents which could release gas into the atmosphere also mean there could be additional environmental risks.

⁸⁶ Williams Tim, 'Pipeline: Environmental Considerations' Parliamentary information Research Service, Parliament of Canada July 5th 2012

Threat from insurgency

The risk to the pipeline of threats from the insurgency and other actors are real. Bahar Adeela writes that, "While TAPI seems extremely attractive in theory, there are some serious challenges that have to be overcome by the countries involved. Even if there is international support and financing for the project, security is difficult to guarantee. TAPI has economic and geopolitical significance, subject to improved security situation in Afghanistan and law and order situation in Baluchistan"⁸⁷

TAPI's current route is through several unstable provinces and districts both in Afghanistan and Pakistan. The insurgency is still raging across Herat, Farha, Helmand and Kandahar. There have been regular attacks across the region on a daily basis.

The pipeline will be laid in the Torghondi, Tirpol, Ghozra, Shinilian, Mrdawrd, Adraskan and Shindand districts of Herat of which many are insurgency affected. Moreover, Taliban fighters have been infiltrating Herat from Ghor and Farah to attack the Afghan National Army and government officials in the province.

Farah province is highly unstable as well. The insurgency is strong and they resort to a number of methods, attacking not only security forces but also civil government institutions and NGOs. The province is insecure and the Farah-based ANSF has come under frequent attack.⁸⁸The Bala Boluk district will host the TAPI pipeline and it is currently very unstable. It is important to underline that Farah has a border with Iran, which has proposed an Iran-Pakistan pipeline to supply gas to Pakistan and maybe further to India.

Helmand, the third province that the TAPI pipeline will pass through is also very insecure and infamous as an insurgent stronghold. The province shares a border with Pakistan, and insurgents have long engaged with the coalition forces and Afghan National Security Forces, inflicting serious casualties. The districts of Marja, Musa Qala and Sangin have seen a lot of violence. Helmand is also known for poppy cultivation and is where much of the poppy harvest is processed into heroin. The British forces who were stationed in Helmand lost 453 service men, while the total coalition forces deaths numbered 952 from 2001 until their withdrawal in 2014.

Kandahar will be the last province in Afghanistan to host the gas pipeline. Historically the province has been of strategic importance, and has produced major political leaders. The core of the Taliban leadership also comes from the region. The Taliban emerged from Kandahar and continue to wage conflict from there. There were 555

⁸⁷ Bahar Adeela, 2014 "TAPI pipeline: A nexus for peace and stability" August 12th 2014 (Accessed November 12th 2014 <http://www.pakistantoday.com.pk/2014/08/02/comment/tapi-pipeline-a-nexus-for-peace-and-stability/>)

⁸⁸ Foschini, Fabrizio, A War of Attrition in Farah Province, Afghan Analyst Network 2013 (accessed on November 5th 2014 <https://www.afghanistan-analysts.org/a-war-of-attrition-in-farah-province/>)

ISAF deaths in Kandahar alone up until 2014.⁸⁹ There was a huge presence of ISAF forces stationed in the province.

The ongoing insurgency in Afghanistan and the ethno-nationalist conflict in Baluchistan pose serious threats to the TAPI gas pipeline. TAPI's path through the south of Afghanistan is exposed to risk and insurgents will find the pipeline an easy target. Iranian groups may also use their own insurgents to threaten the pipeline and these risks are important considerations to anyone financing the project. Rahimullah Yusufzai, the editor of Pakistan-based News International and an expert on Taliban opines, "TAPI has been the most discussed and anticipated project in the region, but it is hard to tell when it would become a reality, or if it would ever become a reality. I sometimes say it should be called a pipe-dream instead of a pipeline. The missing link in the project is Afghanistan due to insecurity in the country. Turkmenistan is keener than others to put the project into practice because it needs to find new markets for its enormous gas deposits and reduce its dependence on Russia. Peace in Afghanistan and the region would have so many benefits, including undertaking and completing TAPI. In fact, I feel TAPI should be part of any future dialogue with Taliban as it would also benefit the areas where Taliban have a stronger presence. Taliban would have an incentive to back the project if they realize its benefits, though a political reconciliation between Kabul and Taliban at the moment looks unlikely."⁹⁰

The Baloch nationalists have historical grievances and have in the past threatened government assets. Their grievances need to be addressed through political engagement with the people. Syed Fazil Haider says that, "The pipeline will traverse the territory of restive Baluchistan, which faces a mild insurgency. Baloch nationalists are waging a political struggle for their legitimate economic rights, while some separatist groups are involved in terrorist attacks on state installations and security forces. The TAPI pipeline is a mega infrastructure project that will create job opportunities for local youth. But I do not think it could bring the disgruntled Baloch into the national mainstream. The federal authorities will have to take serious steps to address the province's grievances giving the local people ownership of their resources and the projects, which are being executed or planned in Baluchistan . The militancy and volatile security in Baluchistan also poses a threat to the TAPI pipeline."⁹¹

⁸⁹ <http://icasualties.org/oef/>

⁹⁰ Rahimullah Yusufzai, Editor of The News International, dated January 5th 2015

⁹¹ Syed Fazl-e-Haider, Journalist, dated January 1st 2015

Evaluation

The TAPI pipeline project is highly ambitious and has the potential for providing an incentive for harmony. However, the complexities within the region in which TAPI will operate have made the project's progress very slow. There has been progress on the part of the host countries, but players involved in the Central Asian energy market and regional crises in particular have complicated made the decision-making process. So for example, Russia, China and Iran wield major influence over the project due to their proximity and possession of gas and reserves.

The TAPI project is also at threat from competition from a proposed Iran-Pakistan gas pipeline, but is also threatened by a lack of finance, and possible disruption from regional non-state armed groups. The regime in Iran has in the past been internationally isolated through sanctions and has sought to integrate with regional markets through gas and oil projects. It has long proposed a gas pipeline to Pakistan and further to India at a more attractive cost. Iran may continue to pursue the cooperation of regional states in buying its gas and laying a pipeline through its territory.

The most explicit and immediate threat to the gas pipeline comes from local insurgencies. There are diverse groups of insurgents and extremists operating in the landscape that will host TAPI. The level of extremism, the continuous flow of cash to insurgents and the growing divide between Iran and Saudi Arabia over Iraq, Yemen and Syria may further complicate the geopolitics of the region. The situation may further lead to enrollment of fighters, mercenaries and spoilers tagged as insurgents. The insurgents do not only pose a threat at local level: In Afghanistan the Taliban may also try to derail the project in order to deny the Afghan government revenues from it; the ensuing disruption to the gas project would affect all the participating countries. Therefore the security of the pipeline is an essential factor and this may seriously weigh on the decisions made by the participating countries and potential financiers of the project.

Yet another major hurdle for the implementation of the TAPI pipeline are the financial resources for its construction. The project's construction could cost up to US\$ 10 billion. Although there are big energy companies which can mobilize capital for the project, the inability to secure onshore gas assets in Turkmenistan and the prospect of ongoing conflict both in Afghanistan and Pakistan may deter many from coming forward and investing in the project. The project therefore is hugely dependent on financial capital during the construction phase. The four participating countries have formed a consortium to implement the project faster, although Afghanistan remains the only country that may not be able to secure a loan for the project.

The TAPI pipeline's route through Afghanistan is marred by armed conflict and uncontained instability that has continued for over a decade since the US-led intervention in the country. The Afghan government is under strain due to the conflict that

sees its army engaged with an insurgency that receives local support from a vulnerable population. The government is in competition with the insurgents to win the loyalty of the masses at grassroots. The TAPI pipeline offers a more sustainable incentive to both the government and people. It could help the government and state to extend its influence beyond current limits, by involving local populations in the productivity surrounding the pipeline and gradually bringing them into the folds of a peace-seeking society. The operation of the TAPI gas pipeline would require a large security apparatus and force in place to secure the pipeline, but that force may be drawn from local people.

In Pakistan, Baluchistan has been locked in a protracted conflict, largely defined by center-periphery disillusionment. The strategic location of Baluchistan, its sea connections and the presence of several types of natural resources elevates its position, and its development may gain primacy among decision-makers in Pakistan like never before. The development of the province, its infrastructure, education and health sectors may offer the key to securing the future of the province and turn it into a hub for regional trade and integration with the rest of region. The TAPI pipeline has the potential to bring development and offer opportunities for addressing traditional Baloch grievances through a new paradigm.

In Punjab province, there are larger industrial parks that are in urgent need of sustainable energy supplies - and the supply of gas from the TAPI pipeline could come at the right time. Punjab is an important contributor to the GDP of Pakistan and is likely to require the largest volume of gas. However, other provinces such as Khyber-Pakhtonkhwa and Sindh may also seek a share of the supply for their own industrial areas and to boost potential for development.

As a more stable nation India has larger potential for industrial growth and it too urgently requires sustainable energy sources to feed industry and attract more investment.

The TAPI project runs through four countries which have been tied into conflicts of various kinds for decades, conflicts that threaten peace beyond the region. However, the TAPI gas pipeline may open opportunities for further investment especially in the mining sector. This is what Afghanistan needs and it could improve chances of peace and stability not only in Afghanistan but the whole region.

There are a number of reasons that pipeline companies looking for a lucrative project are not coming forward. Turkmenistan's laws that affect ownership of the onshore gas reserve is an issue that most investors would regard as a risk factor. Meanwhile, Chinese investors are in a better position to react, thanks to the Chinese government's "Soft Loan" offers. That could enable them to secure more onshore gas assets in Turkmenistan and thus their quest to take gas to the rest of China and Hong Kong could pose a threat to TAPI gas pipeline unless the stalemates are resolved. If China

manages to secure more gas for its own market, pipes it through a Central Asia-China pipeline while sanctions remain in place on Iran, then the TAPI pipeline project could die under the weight of regional geopolitics. Pakistan may seek the revival of the Iran-Pakistan gas pipeline, which in turn could aggravate the Saudi government and thus strain relations between Pakistan and Saudi Arabia. Iran will attract investors and will be able to export its own gas through the extensive network of pipelines in the country plus the two pipelines bringing gas from Turkmenistan.⁹² Afghanistan will be one of the biggest losers as a result, losing out on revenues and the chance of restoring some stability.

However, the mood among governments in the participating countries appears to have changed and emotions replaced by rationale for economic growth. Cooperation is being promoted as key to regional energy security and that may have a positive effect on the internal security of individual states. CASA1000, the project to transfer electricity from Central Asia to the Southern Asian market, has been signed and indicates a change of stance in the region. The TAPI gas pipeline is at the heart of the energy security matrix of the three participating countries downstream, and thus presents an opportunity for regional integration. The pipeline may bring along a range of opportunities for the participating countries in terms of integration, development and security. President Ghani understands that the integration of the region through pipelines and trade as a major force would increase the stake of the countries in stability and would contribute to durable peace in the country, unleashing the potential of the entire region⁹³.

⁹² Op-cit, The Geopolitics of Natural Gas.

⁹³ <http://www.rs.nato.int/article/transcripts/afghan-president-ashraf-ghani-address-to-joint-meeting-of-congress.html>

Conclusions

Apprehension among some participating countries that has generated a fear-psychosis about the project. In order for the project to be successfully constructed and made operational there need to be serious bilateral and multilateral discussions and the implementation of confidence building measures. The geopolitics of the region have become fluid in the light of the Ukrainian crisis and the negotiations over Iran's nuclear program. But if the opportunity isn't grasped soon, the chance to bring energy to this energy-starved region in South Asia may be lost.

The establishment in both India and Pakistan are wary about the integration of partners into the pipeline upstream. Indian strategists think that by becoming party to the pipeline project, Pakistan will gain leverage to use it as bargaining tool when the need arises. Despite the fact that the TAPI pipeline is being fast-tracked, major concerns remain over financing and differences between India and Pakistan. Afghanistan is a very poor country and it does not have a public financial system to fund the several billion dollars it needs to raise for the project. Meanwhile the Pakistani establishment is concerned about integration upstream because it deems Afghanistan to be a hostile actor that could arbitrarily disrupt the flow of gas. These fears are understandable; however, statesmen in all three countries downstream from Turkmenistan see the TAPI gas pipeline as an opportunity for regional integration that may bring durable peace and trust among actors who have been at loggerheads for too long.

Currently the region is under some great and visionary leadership. Afghanistan's leaders understand the economy of integration and the peace promoting effect that transnational projects such as the TAPI pipeline can have in the long run. The Pakistani leadership realizes there is a need for energy and is willing to engage in networks that will bring energy to its starving economy. The development pundit, Indian Prime Minister Narendra Modi considers investment in his country key to achieving sustained economic growth, and energy is a critical need of India. The leadership, politics and programs of all the participating countries are favorable and the project also has international backing.

Consultation, cooperation and exchange have the potential to shift governments from their traditional positions, which are defined by a lack of mutual trust, towards a mutually beneficial relationship. This may address the fear among some members of being integrated into interdependence with archrivals. And finally, the TAPI pipeline could restore international commercial interest with a strong geo-strategic vision laying the foundation for a revival of the Silk Road connecting the European market with the giant South Asian market.

